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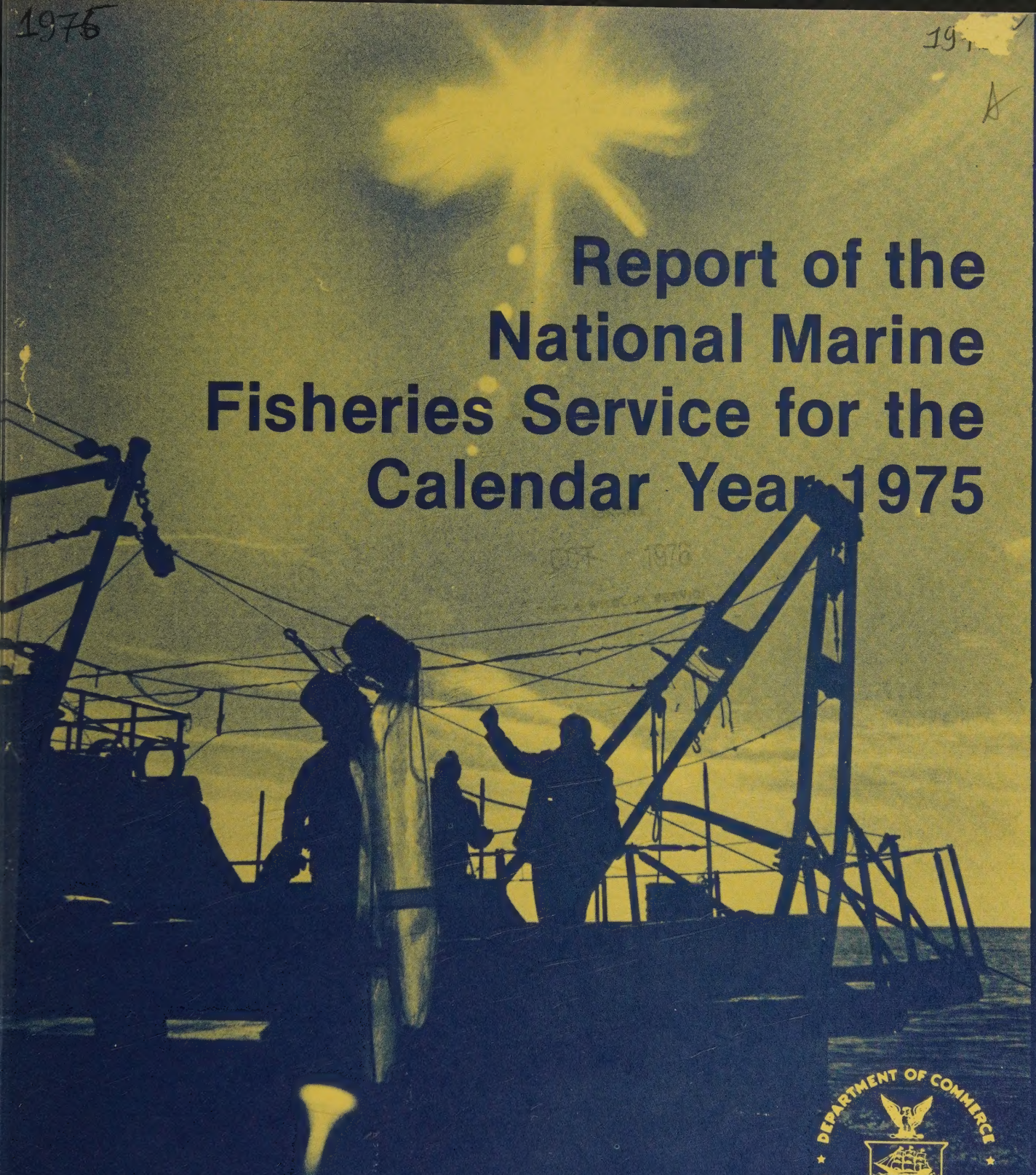

Report of the National Marine Fisheries Service for the Calendar Year 1975

July 1976

U. S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

The Department of Commerce has adopted this Bicentennial logo to symbolize the historic significance of the Nation's fishing industry.

COVER PHOTO: Retrieving small paired bongo nets after tow for fish eggs and larvae during cooperative cruise by Atlantic Estuarine Fisheries Center and the Puerto Rico Nuclear Center.

Report of the National Marine Fisheries Service for the Calendar Year 1975

Washington, D.C.
July 1976

U.S. DEPARTMENT OF COMMERCE
Elliot L. Richardson, Secretary

National Oceanic and Atmospheric Administration
Robert M. White, Administrator

National Marine Fisheries Service
Robert W. Schoning, Director

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THE SECRETARY OF COMMERCE
Washington, D.C. 20230

July 23, 1976

President of the Senate
Speaker of the House of Representatives

Sirs:

I have the honor to transmit herewith the National Marine Fisheries Service Report for Calendar Year 1975.

The report describes the structure of the organization, documents the organization's progress toward achieving its goals of fisheries research, utilization and management in the national interest, and lists the publications of its staff during 1975.

Sincerely,

Elliot L. Richardson

Enclosure

AMERICAN REVOLUTION BICENTENNIAL 1776-1976

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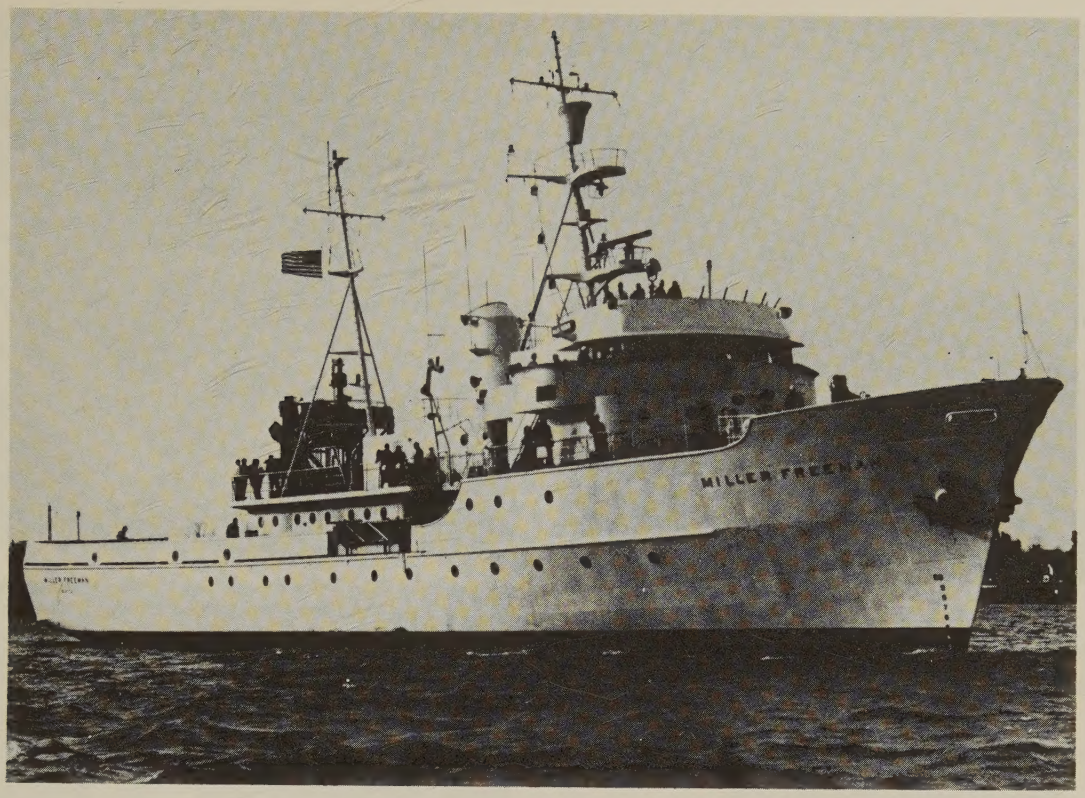
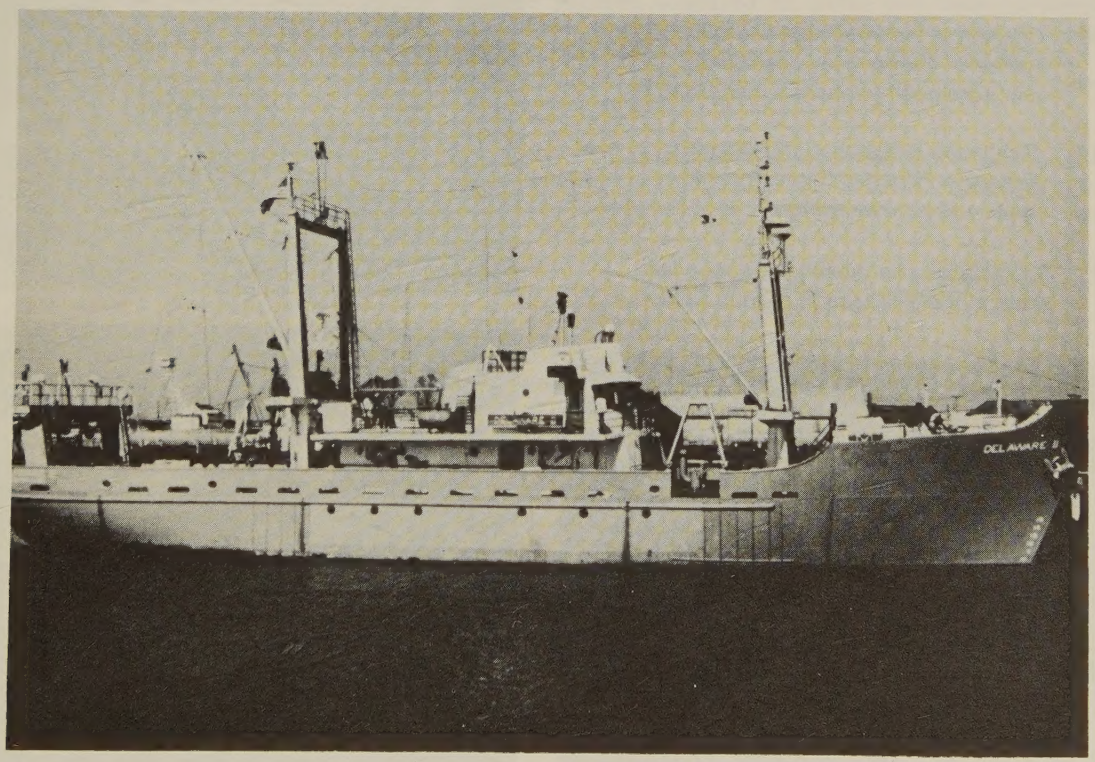
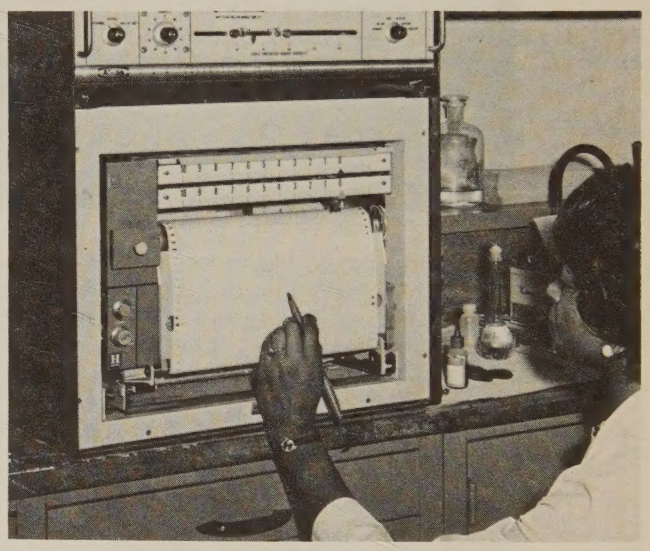




Miller Freeman and Delaware II, two of the major NOAA research vessels assigned to offshore and oceanic fisheries investigations. The service also utilizes many small and medium-sized power craft.



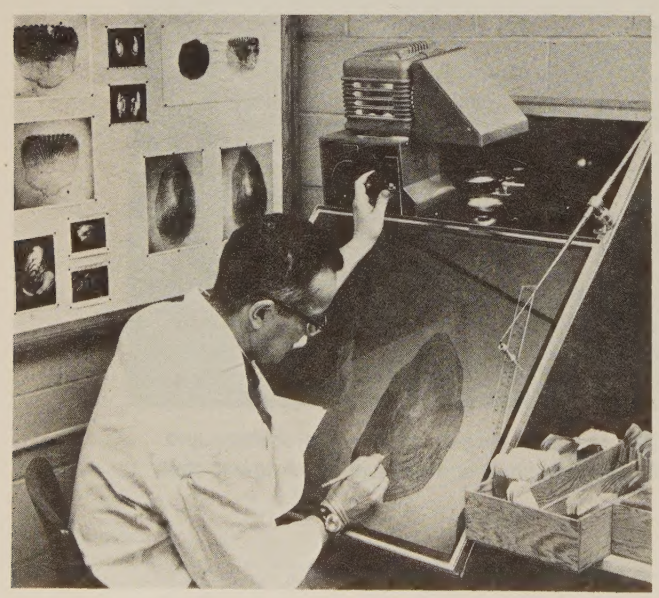
Above: Northeast Fisheries Center biologists measure groundfish during survey cruise.

Top Right: Technician is drawing blood from the heart of a blue crab for disease study at Middle Atlantic Coastal Fisheries Center.

Right Center: Chemist at the Southeast Utilization Research Center uses gas liquid chromatograph to analyse menhaden oil.

Lower Right: Menhaden researcher from Atlantic Estuarine Fisheries Center interviews captain of a purse seiner.

Lower Left: Counting annular growth rings on a fish scale at the Northeast Fisheries Center.



INTRODUCTION

This report, required by Section 9(a) of the Fish and Wildlife Act of 1956, as amended 16 U.S.C. 742h(a), covers calendar year 1975.

It describes (1) the state of the U.S. fisheries in calendar year 1975, (2) the present organization of the National Marine Fisheries Service (NMFS), and (3) significant developments in the Nation's fisheries. It also lists the publications pertinent to its goals and activities during that year.

STATE OF THE FISHERIES

In 1975, commercial fishery landings at ports in the United States were 4.8 billion pounds valued at a record $970.8 million. The quantity landed was 2 percent less than in 1974, and 1 percent less than the average for 1970-74. The value of 1975 landings, which established a new record, was 8 percent greater than in 1974 and 4 percent greater than 1973, the previous record year.

U.S. flag vessels also landed 189.6 million pounds valued at $52.6 million at ports outside the United States in 1975. These landings consisted principally of tuna at Puerto Rican ports and shrimp at Caribbean ports.

U.S. landings for human food were 2,430 million pounds valued at $900 million. The quantity was about the same as in previous years, but the value was a record. Landings of the leading foodfish (tuna and salmon) increased slightly, but landings of each of the leading shellfish (shrimp, crabs, and clams) declined moderately. U.S. landings for industrial purposes were 2,412 million pounds valued at $71 million. The quantity decreased 4 percent, and the value 16 percent. The decline in quantity was due to smaller landings of menhaden.

U.S. marine recreational fishermen in 1970, the most recent year for which data are available, caught an estimated 1.6 billion pounds of marine (saltwater) finfish, or about the same amount of edible marine finfish as commercial fishermen landed in recent years.

World landings were 154.0 billion pounds (69,845 thousand metric tons) in 1974, the most recent year for which data are available. The United States ranked fifth in world commercial landings. The top four countries were Japan, U.S.S.R., Peoples Republic of China, and Peru.

Average prices received by U.S. fishermen declined in almost all months of 1974, but began an irregular increase in the early months of 1975 and reached near-record levels by the end of the year. Wholesale prices followed a similar upward trend in 1975.

The value of domestic production of processed fishery products (fresh and frozen, canned, cured, and industrial) was $2,699.0 million in 1975, down 2 percent from the record in 1974. The total value of domestic production of edible fishery products was $2,392.7 million in 1975, about the same as in 1974. Declines in value of production of canned tuna and canned salmon were offset by increases in the value of frozen fish portions and breaded shrimp. The value of industrial products was $306.3 million in 1975, down 21 percent from 1974, chiefly because of a sharp decline in the value of canned pet food, fish meal, and oil.

The value of U.S. imports of edible and nonedible fishery products in 1975 was $1,637.1 million, down 4 percent from the record of 1974. Imports of edible products of $1,367.2 million in 1975 were down 9 percent chiefly because of the sharp drop in imports of raw tuna for canning, which more than offset a moderate increase in imports of frozen blocks and fillets. U.S. exports of edible and nonedible fishery products in 1975 were a record $304.7 million, up 16 percent from 1974 owing to increased exports of edible fishery products.

The U.S. supply of commercial fishery products (domestic landings plus imports, live weight equivalent) was 10.1 billion pounds in 1975, up 3 percent compared to 1974, but down 12 percent from the average for the past 5 years. Imports provided 62 percent of the supply of edible products and 36 percent of the supply of industrial products in 1975.

Preliminary data show the U.S. per capita consumption in 1975 to be 12.1 pounds of fish (meat weight), the same as in 1974.

EXTENDED FISHERIES JURISDICTION

In the last 30 years, the world fish catch has tripled, with the catches by foreign vessels off the U.S. coast greater than that of U.S. fleets. At present, the annual harvest of foreign and U.S. fleets is about 7.1 million metric tons, with a retail value of about $9 billion.

The potential catch from U.S. coastal resources is estimated at over 12 million metric tons. These resources are subjected to competitive harvesting by 14,000 U.S. vessels and over 1,000 foreign ships. This fishing effort has depleted many valuable stocks of fish to a point where their future and that of the fisheries depending on them are in jeopardy. Adding to this demand, the consumption of fish has doubled in the United States since 1945. Some of the extra supplies have come from a sixfold increase in imports, which will be limited in the future as the world catch approaches its limit and as other nations increase their demands for fish.

International mechanisms have been only partially successful in protecting fish stocks. The United Nations Law of the Sea Conference met in Geneva this year in a continuing effort to solve worldwide problems of access to, and allocation of, marine resources and the oceans. The next Law of the Sea session will be in the spring of 1976 in New York. 1/

While these international deliberations are under way, Congress is examining the need for extended fisheries jurisdiction. The House of Representatives has voted in favor of a bill to extend the Nation's fisheries jurisdiction to 200 nautical miles and to provide for management of marine fishery resources. The Senate is drafting similar legislation. The passage of legislation leading to the extension of U.S. fishery jurisdiction and fishery management appears likely to occur in early 1976. 2/

The National Marine Fisheries Service and the National Oceanic and Atmospheric Administration, in anticipation of new fishery management authority and responsibilities, distributed a discussion paper for review early in 1975. The report, entitled "Fisheries Management Under Extended Jurisdiction: A Study of Principles and Policies," contributed to the policy framework of the legislation being considered by Congress.

This new management authority will greatly improve the opportunities for conservation of recreational and commercial fishery stocks. Two fundamental changes that will occur are: the recognition that the common property principle in fishery resource management is obsolete, creating a need to control access and allocation in some major fisheries; and the assumption of authority by the Federal Government for the management of the fisheries predominantly outside State jurisdiction.

With changes of this magnitude in the immediate future, the Director of the National Marine Fisheries Service created a small staff in March 1975 to coordinate the Service's preparations for extended fisheries jurisdiction. In August 1975, the Director also formed a task force to review organization management in the Service. This task force will propose changes in the organization and in management processes that will help meet the demands that will be imposed by extended jurisdiction.

1/ Held March 15 - May 7 in New York City.
2/ P.L. 94-265 signed April 13, 1976.

ADMINISTRATION

MISSION AND ORGANIZATION

The National Marine Fisheries Service (NMFS) has an integrated program of research and services related to the protection and rational use of living marine resources for their aesthetic, economic, and recreational value. NMFS administers programs to determine how the naturally varying environment and man's activities affect the living marine resources; to provide knowledge and services to foster their efficient and judicious use; and to achieve domestic and international management, use, and protection of living marine resources. The Service is organized as follows:

The Director formulates and executes basic policies and manages NMFS. He is assisted by a Deputy Director.

The primary program functions of NMFS have been assigned among four areas: Resource Research, Resource Utilization, Resource Management (each headed by an Associate Director), and International Fisheries (headed by an Assistant Director). (Figure 1 shows the NMFS organization and figure 2 the principal facilties.)

The Office of Resource Research also has reporting directly to it seven major field fisheries research centers concerned primarily with research carried out as part of a nationwide program designed to solve problems of a national or international nature. These are: the Northwest Fisheries Center, Seattle, Wash.; the Southwest Fisheries Center, La Jolla, Calif.; the Gulf Coastal Fisheries Center, Galveston, Tex.; the Southeast Fisheries Center, Miami, Fla.; the Atlantic Estuarine Fisheries Center, Beaufort, N.C.; the Middle Atlantic Coastal Fisheries Center, Highlands, N.J.; and the Northeast Fisheries Center, Woods Hole, Mass. These fisheries centers coordinate and oversee research at 17 major laboratories and numerous smaller field stations. In addition, three field facilities also report to the Washington Office.

The Office of Resource Utilization has three major fisheries utilization research centers performing microbiological, chemical, and technological research to improve the quality and utilization of fishery resources. These centers, which report directly to Washington, are the Northeast Utilization Research Center, Gloucester, Mass.; Pacific Utilization Research Center, Seattle, Wash.; and Southeast Utilization Research Center, College Park, Md.

The field structure, in addition to the centers mentioned above, consists of five Regional Offices each headed by a Regional Director. (See figure 3.) Regional Directors act

as representatives of the Director in their geographical area of responsibility with State conservation agencies, recreational interests, the fishing industry, universities, and the general public. Regional Offices also plan, organize, and manage regionalized fishery resource research, conservation, management, and utilization programs within their areas.

PLANS AND POLICY DEVELOPMENT

Established in 1971, the interdisciplinary Plans and Policy Development Staff includes program analysts, financial analysts, and secretarial support. The staff advises the Director on Service activities involving planning, programing, and legislation policy coordination; and future needs in developing mission, goals, objectives, and policies. In so doing, the staff provides coordination with other NOAA elements, Federal agencies, and public and private organizations. It also makes and coordinates studies for alternative solutions to problems; advises on the design, development, and use of management and data information systems; evaluates the effectiveness of Service programs and activities; coordinates the formulation, justification, and presentation of programs and budgets; provides assistance to the Directorate in executing the operating budget; and performs analyses on and recommends changes in authorized programs for optimum use of funds and manpower.

NATIONAL PLAN FOR MARINE FISHERIES

The National Advisory Committee on Oceans and Atmosphere (NACOA), in its 1972 and 1973 annual reports to the President and Congress, urged that NOAA develop a National Plan to rehabilitate the domestic fishing industry. In accordance with NACOA's suggestion, the Service established a small planning unit to develop a National Fisheries Plan for actions needed during the next 10 years.

The final draft of the National Plan was completed in October 1975 and, pending Department of Commerce approval, was released by NOAA as an interim document to guide the Eastland fishery surveys being made by the interstate marine fisheries commissions. It was approved by NOAA's Directorate in October 1975 and submitted for Departmental approval.

Two presentations were made to the Department's Policy Council, including a discussion of policy issues which NOAA considered controversial. The Secretary decided that the complex issues presented in the plan merited further study. He therefore established a departmental task force to identify and examine the issues more closely. The task force has reviewed the alternatives under each of the issues and has more narrowly defined the issues. The findings will be presented to the Secretary, together with NACOA's comments, for coordination into a departmentally approved national plan. Meanwhile, the Secretary has designated the draft "policy framework" and the document has been appropriately amended to conform with this designation.

BUDGET

Total direct appropriations of $59,416,000 and Saltonstall-Kennedy (S-K) funds of $9,069,000 or a total of $68,485,000 were available for fishery activities in FY 1976. (See table 1.)

Congress provided increases of $7,030,000 over the FY 1975 adjusted base for use as follows: $3,680,000 for Marine Resources Assessment, Monitoring, and Prediction (MARMAP); $950,000 for marine mammal conservation; $400,000 for endangered species conservation; $900,000 for fish facilities on the Columbia River; $200,000 for anadromous grants (PL 89-304) to bring the total program to $2 million; $400,000 for grants to States (PL 88-309) to bring the program to $3,800,000; and $500,000 to begin work on a pilot demonstration facility for all phases of salmon production, additional research, and demonstrations to improve fishery production, including lobster, for the northeast part of the United States (Southern New England Fisheries Development Program). An additional $625,000 (total of $1 million) was made available from S-K reserve funds to support Pacific Fisheries Development. Additional NOAA funds were provided for Coastal Zone Management support ($270,000) and Tuna-Porpoise Research ($290,000).

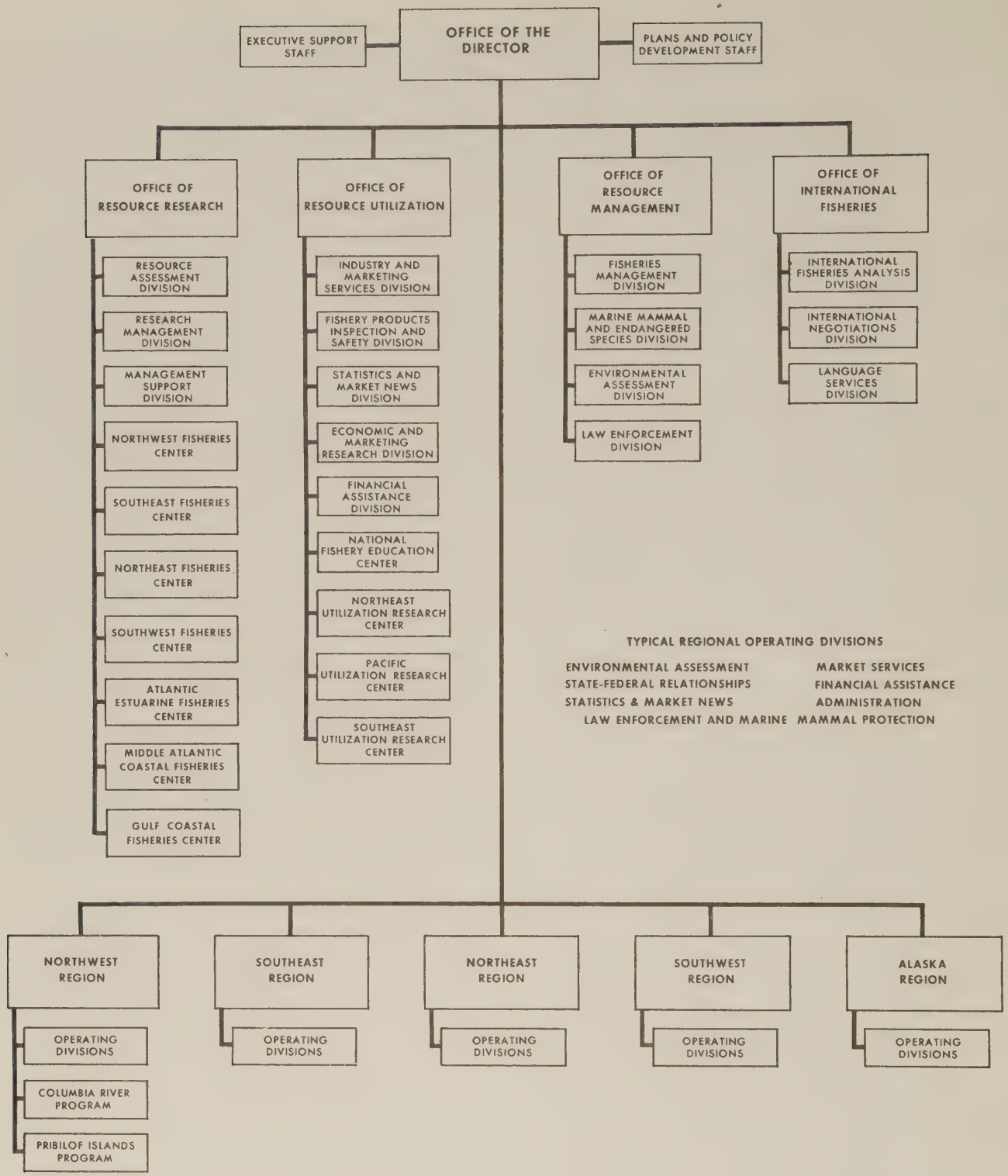


Figure 1.- Organizational structure of NMFS.

(FEBRUARY 1975)

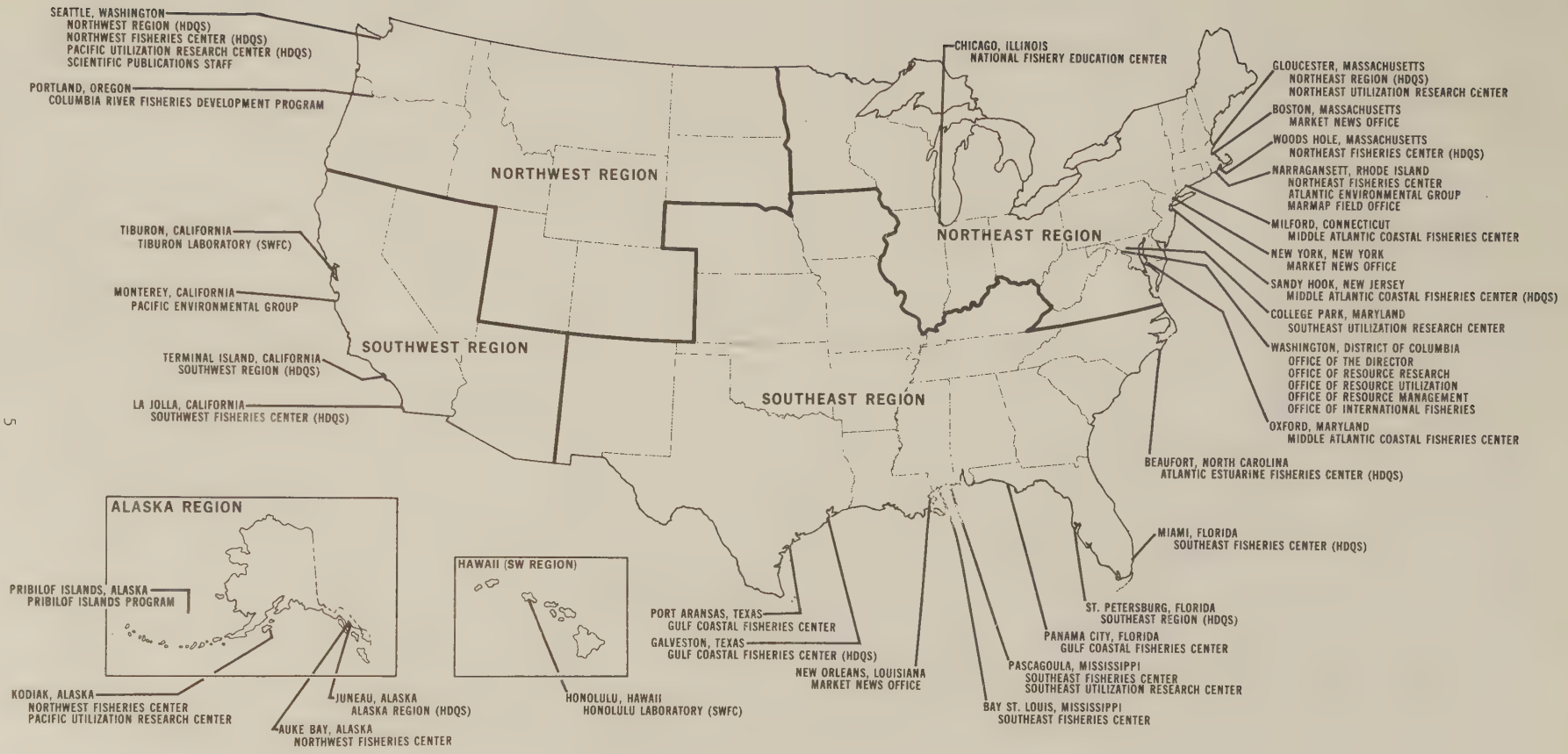


Figure 2.--Principal facilities of NMFS.

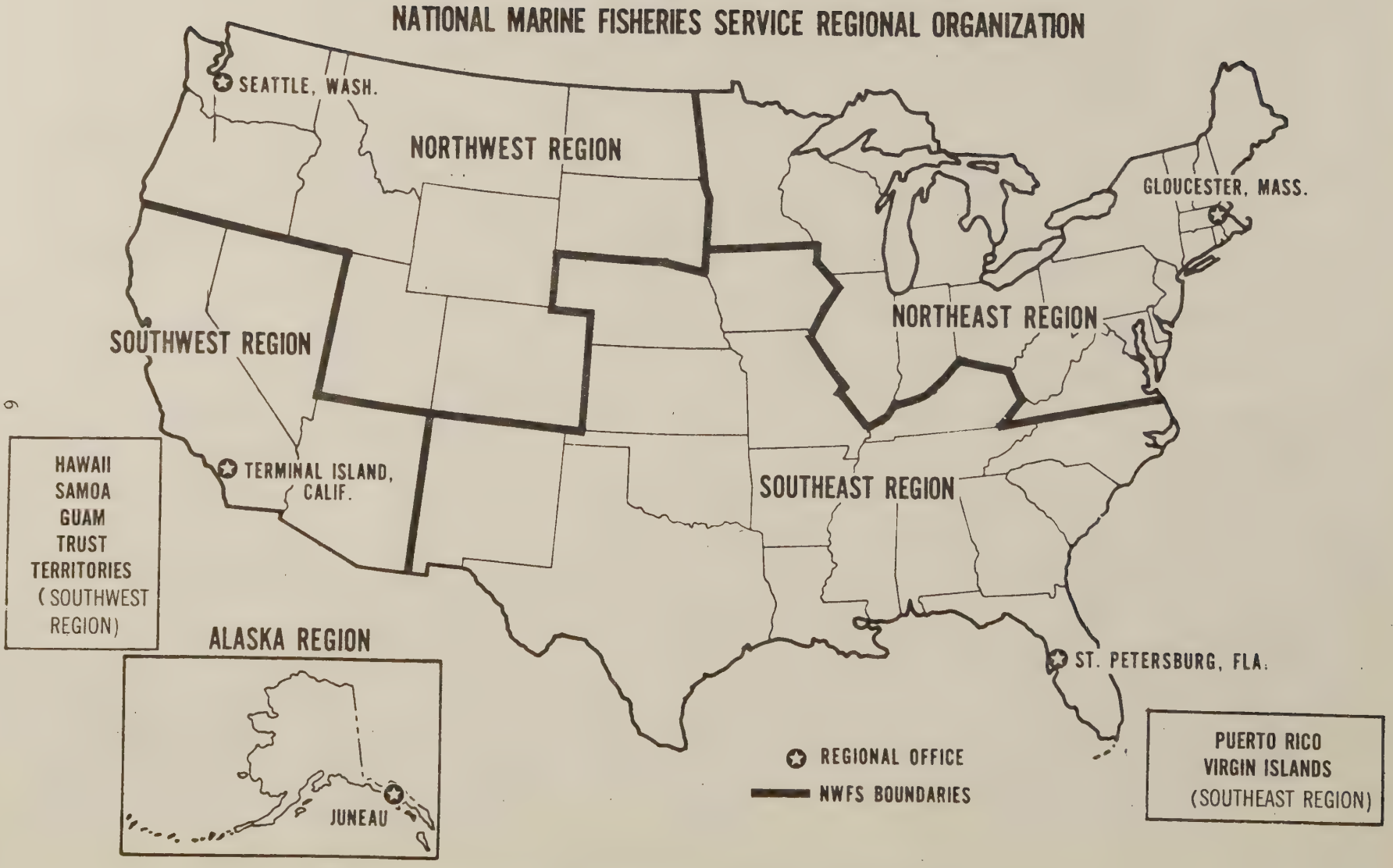


Figure 3.--Regions of the National Marine Fisheries Service.

Table 1.--Comparative budget summary for fiscal years 1975 and 1976

	Adjusted base FY 1975	Congressional increases	Additional NOAA funds	Total available
	(In thousands of dollars)			
Appropriated*	51,826	7,030	560	59,416
S-K funds	8,444	625	---	9,069
	60,270	7,655	560	68,485

*These appropriated amounts do not include (1) assets of the Fisheries Loan Fund, which are based on repayments of loans and interest payments; (2) fees paid into the Fishermen's Guaranty Fund for participation in the program; (3) funds for the October 1975 pay raise, executive direction and administration, and other services provided by NOAA; and (4) indirect budgetary resources available to NMFS from reimbursements and trust funds. They do not include funds for NMFS vessels managed centrally by NOAA's National Ocean Survey.

Activity	Adjusted base FY 1975	Congressional increases	Additional NOAA funds	Total available
	(In thousands of dollars)			
Marine Resources Assessment, Monitoring & Prediction				
Direct Appropriation	11,119	3,680	---	14,799
S-K funds	1,963	---	---	1,963
	13,082	3,680	---	16,762

This budget subactivity covers the Marine Resources Monitoring, Assessment, and Prediction Program designed to determine and predict the abundance and distribution of living marine resources and research to develop necessary technology. It also includes (1) surveys of larval, juvenile, and adult fish and shellfish to provide data on the composition, distribution, abundance, and condition of living marine resources; (2) analysis and interpretation of data to produce information on stock size, mortality, recruitment, reproductive capacity, growth, and fishing rates required for predictions related to optimal catch and fishing level efforts in support of American participation in several international fishery commissions, bilateral agreements, and domestic fisheries development and management programs; (3) fishery oceanography--research to describe (a) the characteristics (physical, chemical, biological) and the dynamics of the organic producing systems of the oceans, and (b) the role of oceanographic features and processes in influencing the distribution and abundance of living marine resources; and (4) survey technology development--research to improve equipment and deployment methods for assessment purposes and the development of sampling and harvesting methods.

The increase covers resource surveys ($2,016,000), data analysis ($787,000), fishery oceanography ($530,000), and survey technology development ($347,000).

Activity	Adjusted base FY 1975	Congressional increases	Additional NOAA funds	Total available
	(In thousands of dollars)			
Conserving Marine Resources				
Direct Appropriation	14,208	1,350	560	16,118
S-K funds	136	---	---	136
	14,344	1,350	560	16,254

This budget subactivity includes (1) Fishery habitat investigations of estuarine and inshore areas to establish baseline data and evaluate the ecological impact of manmade and unusual natural changes. (2) Environmental impact analysis -- to participate in the review of impact statements related to planning and approval of Federal construction and permitted or licensed alterations, and to assure full and equitable consideration of living marine resources. (3) Marine mammal conservation -- to carry out the responsibilities assigned to the Secretary of Commerce under the Marine Mammal Protection Act of 1972 (16 USC 1361-1407) by establishment and administration of regulations and policy governing exceptions to the moratorium on taking, importing, and exporting marine mammals and products imposed under the Act. Also, to reduce marine mammal mortality during commercial fishing. (4) Endangered

species conservation--to carry out the responsibilities assigned to the Secretary of Commerce under the Endangered Species Act of 1973 (PL 93-205, enacted December 28, 1973). The law was enacted to strengthen conservation measures related to endangered or threatened species of marine life and their ecosystems. Effects include research, cooperative State-Federal conservation programs, and administration and enforcement. (5) Pribilof Islands operations--this work is carried out pursuant to 16 USC 1153-1187. The United States, through the Department of Commerce, has the responsibility for research and management of the fur seal herd, and administration and assistance programs to foster greater self-sufficiency of native Aleut residents.

The increase covers marine mammal conservation ($950,000) and endangered species conservation ($400,000).

Additional NOAA funds were made available to finance environmental impact analysis in connection with support of coastal zone management ($270,000) and for tuna-porpoise research ($290,000).

Activity	Adjusted base FY 1975	Congressional increases	Additional NOAA funds	Total available
	(In thousands of dollars)			
Restoring & Increasing Fishery Resources				
Direct Appropriation	9,425	1,100	---	10,525
S-K funds	289	---	---	289
	9,714	1,100	---	10,814

This budget subactivity includes (1) Columbia River program to restore and maintain runs of Pacific salmon and steelhead in the Columbia River through construction, operation, and maintenance of hatcheries, fishways, and fish screens (16 USC 755-756). (2) Anadromous fisheries grants (PL 89-304)--The Anadromous Fishery Conservation Act of 1965 (16 USC 757a) authorizes NOAA to enter into cooperative agreements with States and other non-Federal interests for the conservation, development, and enhancement of the U.S. anadromous fishery resources, and those fish that ascend our Great Lakes streams to spawn. The program is administered jointly at the Federal level by NOAA and Interior's Fish and Wildlife Service. (3) Aquaculture research and development needed to demonstrate to private investors the economic viability of producing a harvestable crop of marine life under controlled conditions. (4) Disaster assistance--The Commercial Fisheries Research and Development Act of 1964 (PL 88-309 (4b)) (16 USC 779f) authorizes the Secretary of Commerce to provide financial assistance to those States in which he determines there is a commercial fishery failure due to a resource disaster arising from natural or undetermined causes. Appropriations for this line item are justified, on a supplemental basis, as required, to restore affected fisheries or to prevent a similar failure in future years.

The increase covers fish facilities on the Columbia River ($900,000), and anadromous fishery grants (PL 89-304) ($200,000) to bring the program to a $2 million level.

Activity	Adjusted base FY 1975	Congressional increases	Additional NOAA funds	Total available
	(In thousands of dollars)			
Managing & Using Fishery Resources				
Direct Appropriation	16,098	900	---	16,998
S-K funds	6,056	625	---	6,681
	22,154	1,525	---	23,679

This budget subactivity includes (1) International fishery management to secure U.S. control or dominant influence in fisheries off our shores so as to achieve maximum sustainable yield and optimum economic benefits. (2) State-Federal fishery management of U.S. coastal fisheries, in cooperation with the States, so as to maximize aggregate social and economic benefits. Effort includes the lead role in interstate coordination in the development of management plans and administration of the grant program authorized under (PL 88-309 (4a)). (3) Fishery grants to States, authorized under the Commercial Fisheries Research and Development Act of 1964, PL 88-309(4a) (16 USC 779f), enable the States to cope with and find solutions to the problems of increasing demands and stresses upon marine resources and environment. (4) Fishery enforcement and surveillance to enforce domestic law and international agreements concerning conservation of those marine resources off U.S. shores for which NMFS is responsible. (5) Economics and commercial fishery statistics input to fishery management. (6) Increasing use of

Table 1.--Comparative budget summary for fiscal years 1975 and 1976 (cont.)

resources to increase the levels of harvest and consumption of selected latent and underutilized fishery resources. (7) Fishery product quality and safety to promote the production and consumption of safe and wholesome fishery products by providing contaminants information and analysis, and inspection support service to industry, regulatory agencies, and the public. Provides for upgrading product quality in the harvesting, processing, and marketing of fishery products. (8) Marine recreational fishery research and other activities related to marine game fish pursuant to the Migratory Marine Game Fish Act (16 USC 760 e-g) to ensure optimal recreational use of living marine resources.

The increases cover fishery grants to States PL 88-309 ($400,000) to bring the program to a $3,800,000 level and $500,000 for a Southern New England Fisheries Development Program for the northeast part of the United States. The OMB approved the release of an additional $625,000 in S-K reserves, and this provided a total of $1 million for development of Pacific fisheries.

Activity	Adjusted base FY 1975	Congressional increases	Additional NOAA funds	Total available
	(In thousands of dollars)			
Fisheries Financial Support Services				
Direct Appropriation	976	---	---	976

These funds provide for management support for the Fishing Vessel Obligation Guarantee Program (Mortgage Insurance Program) authorized by Title XI of the Merchant Marine Act, 1936, as amended by the Federal Ship Financing Act of 1972; the Fisheries Loan Fund authorized by the Fish and Wildlife Act of 1956; the Vessel Construction Subsidy Program (terminated in 1969); and the Capital Construction Fund Program authorized under Section 21 of the Merchant Marine Act of 1970. Appropriations for the Fishermen's Guaranty Fund, together with fees collected from vessel owners, provide for payment to vessel owners and crews to compensate them for certain financial losses resulting from the seizure of U.S. fishing vessels by foreign governments. The Offshore Shrimp Fund created by the Offshore Shrimp Fisheries Act of 1973 (PL 93-242, January 2, 1974, as amended by PL 94-58, July 24, 1975) authorizes the annual payment to Brazil for enforcement expenses in connection with the United States-Brazil Shrimp Fishing Agreement. Collections from participating boat owners are split into miscellaneous receipts for administrative expenses and deposits to the fund for payment to Brazil.

PUBLIC AFFAIRS

The Public Affairs activities of the Service are a function of the Public Affairs Officer and his staff, who are detailed to the Service and supervised by the NOAA Director of Public Affairs.

The Public Affairs Office is responsible for liaison between the Service and NOAA in all public affairs activities. The Office functions as a part of the staff of the Director and has close contact with the Associate Directors as well as the Regional and Center Directors.

It produces national news releases and feature items that reach as many as 1,500 news outlets across the Nation; maintains a special mailing list of about 700 outdoor writers who are sent selected news releases; prepares articles for each issue of the quarterly periodical NOAA, and for Commerce Department and other Federal publications; arranges for interviews of Service personnel with representatives of all media; responds to inquiries from the press, broadcast media, and the general public; maintains close contact with Regional Offices and Centers on matters of public interest; provides representation at pertinent fishery functions throughout the United States; coordinates or prepares brochures, pamphlets, and similar material; participates in preparing material for local and national exhibits related to fishery matters; and covers newsworthy events as required in the various Regions.

OFFICE OF GENERAL COUNSEL

The Office of General Counsel, NOAA, provides comprehensive legal counsel for the Service and closely follows litigation that concerns it.

The Office of General Counsel was involved in the following cases, among others, that were filed in 1975 or filed prior to that year but carried over into 1975.

American Tunaboat Association, et al. v. Dent - #73-2990GT (USDC SD Cal) - Suit alleges improprieties by the Service in implementation of tuna regulations, and seeks (1) injunction against enforcement of tuna regulations applicable to U.S. fishermen until other parties to Inter-American Tropical Tuna Commission (IATTC) implement similar restrictions and (2) an order requiring the United States to embargo tuna from countries fishing in violation of IATTC conservation program. Plaintiffs continue to conduct discovery, and a pretrial conference was set for May 1976 and a trial date for June 1976.

U.S. v. Approximately 633.79 Tons of Yellowfin Tuna (M/V QUO VADIS) - Civil Suit #74-154GT (USDC SD Cal) - Tuna forfeiture case, filed March 28, 1974, arising out of violation of Tuna Conventions Act of 1950 and forfeiture of yellowfin tuna valued at $300,000 for failure to report transshipment of catch and for exceeding 15-percent closed season incidental catch rate. Defendant's motion for summary judgment, on grounds statute was unconstitutional delegation of legislative powers to the Executive Branch and void for vagueness, was denied on September 16. The judge determined that the Tuna Conventions Act of 1950 was constitutional. Case settled July 1975.

U.S. v. Approximately 201.285 Tons of Yellowfin Tuna (M/V JOHN F. KENNEDY) - Civil #75-0284-E (USDC SD Cal) - A complaint was filed for forfeiture in May 1975, under the Tuna Conventions Act of 1950. The complaint was compromised January 1976.

U.S., et al v. Washington - Civil #9213 (USDC WD Washington) - Suit by U.S. and 14 Indian tribes filed September 1970, to enjoin State of Washington from enforcing State fishing regulations against the Indians. Plaintiffs prevailed in District Court (decision of February 12, 1974), and the decision was affirmed by the Circuit Court in June 1975. Certiorari was denied December 1975. Hearings continue on the relationship of the decision to the sockeye and pink salmon fisheries of the International Pacific Salmon Fisheries Commission.

U.S. v. State of Alaska Cook Inlet - #A-45-67 (USDC Anchorage, Alaska) - Dispute between the Federal Government and State of Alaska over the location of Alaska's territorial sea at numerous sites, including the Cook Inlet. The Supreme Court found early in 1975 that Cook Inlet was not within Alaska's jurisdiction.

U.S. v. Approximately 389.024 Tons of Yellowfin Tuna (M/V JEANNINE) - Civil #75-0224-GT (USDC SD Cal) - Complaint filed in April 1975 for forfeiture of tuna for alleged violations of Tuna Conventions Act. Settlement negotiations underway.

Loesche v. Department of Commerce - Case was filed challenging the constitutionality of the Marine Mammal Protection Act on the grounds that there were no facts to warrant the Act's protection and plaintiff was denied due process because the Act made his occupation illegal. Government's motion to dismiss granted in February 1975.

U.S. v. Approximately 55.71 Tons of Yellowfin Tuna (M/V CAPE SAN VINCENT) - Civil #74-473-T (USDC SD Cal) - Complaint for forfeiture filed October 10, 1974, for violation of Tuna Conventions Act of 1950 by fishing inside the regulatory area in August while reporting position as outside. The complaint was compromised January 1976.

Cook, et al. v. Kissinger, et al. - Civil #75-C-596 (USDC ED Wis) - Case filed in October 1975. The complaint alleges that the named defendents, who include State fisheries officials as well as a number of cabinet officers, have deprived plaintiffs of their rights as consumers and sellers of lake trout by favoring sport fishermen at the expense of the commercial fishery. It is alleged that the treaty with Canada as well as certain statutes require that a commercial fishery be reestablished.

U.S. v. Mitchell and Hope - Defendants, U.S. citizens, were arrested for capturing porpoises in Bahamian waters for shipment and sale to public display facilities in other countries without a permit issued under the Marine Mammal Protection Act of 1972. In November 1975, Mitchell and Hope were indicted as co-conspirators. Trial was held in May 1976.

Barringer v. U.S. - Civil #75-540-T-H (USDC MD Fla) - Suit filed July 1975. Plaintiff seeks to recover damages for loss of or damage to his property allegedly caused by the negligent seizure and storage thereof by the Government in connection with enforcement of the Endangered Species Act. Government filed a motion to dismiss with prejudice. Case was dismissed without prejudice, April 1976.

Save the Dolphins v. U.S. DOC - #C-74-0026 (USDC ND Cal) - Suit concerned status of research film on the incidental take of porpoise in commercial fishing operations. Film was ordered released by the judge following deletion of any portions containing information subject to Freedom of Information Act (b)(4)(5 U.S.C. 552(b)(4)) exemption and requirement that film be released to public only after subtitles added which stated that film did not depict typical fishing operations but rather research operations. No appeal was filed.

Committee for Humane Legislation v. Dent, et al. - Civil #74-1465 (USDC DC) - Suit filed October 4, 1974, for preliminary and permanent injunction forbidding the issuance of permits that will allow commercial fishermen to take marine mammals. The case was merged with a suit filed in February 1975, Fund for Animals, et al v. Dent, et al. Plaintiffs have filed a motion, and NOAA has filed a cross motion for summary judgment.

Other cases were brought under some of the laws referenced above, in particular, several cases against individuals for violations of the Marine Mammal Protection Act and the Endangered Species Act. In addition, cases were brought for mortgage foreclosure, attaching right of claims, interlocutory sale, and collection of deficiency judgment.

The Office of General Counsel also participated in numerous hearings, such as informal hearings under the Marine Mammal Protection Act to amend incidental take regulations promulgated in 1974 and a formal hearing on the proposal to waive the moratorium on importation of the Marine Mammal Protection Act to allow the importation of Cape fur sealskins from South Africa.

Finally, the Office of General Counsel participated in international negotiations, including negotiations to amend the Interim Convention on the Conservation of North Pacific Fur Seals and for continued United States access to spiny lobsters in Bahamian waters.

MARINE FISHERIES ADVISORY COMMITTEE

The Marine Fishery Advisory Committee (MAFAC) was established February 17, 1971, by the Secretary of Commerce under Reorganization Plan No. 4 of July 1970, Executive Order 11007, Section 3b, and Act of July 1, 1954 (15 U.S.C. 713-3(c)). The Committee Charter was renewed on January 3, 1973, and again on December 20, 1974, as required by Public Law 92-463. MAFAC members are appointed by the Secretary and advise him on matters pertinent to the Department of Commerce's responsibilities for marine fishery resources.

The Committee held two meetings during 1975: February 4-6, in La Jolla, Calif., and September 3-5, in Washington, D.C. One meeting of the MAFAC subcommittee on the National Plan for Marine Fisheries (formerly the National Fisheries Plan subcommittee) was held in conjunction with the February MAFAC meeting on February 4, and another was held in Washington, D.C., on May 8-9. Two meetings of the Marine Recreational Fisheries subcommittee were held on February 4 in La Jolla, Calif., and on September 3 in Washington, D.C. One meeting of a MAFAC Ad Hoc subcommittee on the Boldt Decision was held in Seattle, Wash., on December 16.

As of December 31, 1975, the committee consisted of the following 27 members:

Richard B. Allen
31 Bliss Road
Wakefield, RI 02879

Lawrence W. Appelbaum
President, Penguin Frozen Foods
P.O. Box 848
Northfield, IL 60093

Donald E. Bevan
Assistant Vice President for Research
University of Washington
201 Administration Bldg. AG-10
Seattle, WA 98195

Charles A. Black
c/o Embassy Accra
U.S. Department of State
Washington, DC 20520

Frank E. Carlton
Savannah Urological Clinic
2515 Habersham Street
Savannah, GA 31403

Frank L. Cassidy, Jr.
Commissioner
Washington Department of Game
2614 NW 91st
Vancouver, WA 98665

Ross N. Clouston
President, the Gorton Corporation
327 Main Street
Gloucester, MA 01930

Theodore B. Ford, III
Assistant Director, Office of
Sea Grant Development
Louisiana State University
Baton Rouge, LA 70803

Frank K. Goto
President, United Fishing
Agency Ltd.
218 North Nimitz Highway
Honolulu, HA 96817

Edwin J. Gould
Chairman and President
E.J. Gould & Company, Inc.
400 Park Avenue
New York, NY 10022

Frank Grice
Director, Massachusetts Division
of Marine Fisheries
100 Cambridge Street
Boston, MA 02202

Dennis A. Grotting
Secretary-Manager, Fishermen's Marketing Association
302 4th Street
Eureka, CA 95501

Frank W. Holas
President, Booth Fisheries Div.
Consolidated Foods Corp.
2 North Riverside Plaza
Chicago, IL 60606

Edward G. Huffschmidt
136 Touchstone Terrace
Lake Oswego, OR 97034

Joe R. Lee
President of Red Lobster Inns
6770 Lake Ellenor Drive
Orlando, FL 32809

John W. McKean
Director, Oregon Game Commission
P.O. Box 3503
Portland, OR 97208

Frank T. Moss
Associate Editor
Yachting Magazine
50 West 44th Street
New York, NY 10036

Julius R. Nelson
Long Island Oyster Farms, Inc.
610 Quinnipiac Avenue
New Haven, CT 06513

Virgil J. Norton
Professor, Department of Resource Economics
University of Rhode Island
Kingston, RI 02919

Elmer E. Rasmuson
Chairman of the Board
National Bank of Alaska
Anchorage, AK 99501

Charles W. Sahlman
President of Sahlman Seafoods
1352 Sahlman Avenue
Tampa, FL 33605

Oliver A. Schulz
Manager, Fisheries Relations
Del Monte Corporation
P.O. Box 3575
San Francisco, CA 94119

Gale Steves
Food Editor, Co-Ed Magazine
50 West 44th Street
New York, NY 10036

Jack T. Styron
President
Louisiana Menhaden Company
1221 North Broad Street
New Orleans, LA 70119

Clement Tillion
Halibut Cove
VIA Box 373
Homer, AK 99603

Robert B. Weeden
Director of Planning Development and Planning
Office of the Governor
State of Alaska, Pouch A
Juneau, AK 99811

Melvin H. Wilson
Vice President & Associate Trust Counsel
Security Pacific National Bank
P.O. Box 2498
Los Angeles, CA 90051

Chairman: Robert M. White
Administrator
National Oceanic and Atmospheric Administration

Executive Secretary: Alfred J. Bilik
National Marine Fisheries Service

VESSEL ACTIVITIES

Ten major ships of the NOAA Fleet supported sea-going survey and research tasks of the Service. (See Table 2.) An additional ship gave logistic support to the Pribilof Islands Program.

The NOAA Fleet is managed by the National Ocean Survey's Office of Fleet Operations. NOAA ship time is allocated to the NOAA Fleet Allocation Council, which includes participation by Service representatives. In addition to these ships, many small- and medium-sized research vessels are operated by the Service's individual stations and laboratories.

During 1975 the Miller Freeman was reactivated for the NOAA Offshore Continental Shelf Survey and Assessment Program. A high proportion of the work consisted of MARMAP type resource surveys in the Gulf of Alaska and Bering Sea. The Townsend Cromwell was reactivated to support MARMAP Resource Surveys and Fishery Oceanography Tasks in the Central Pacific.

RESOURCE RESEARCH

The Office of Resource Research plans, develops, and manages national research programs designed to understand living marine resources and the environmental quality essential for their existence. It develops management regimes to facilitate optimum use of fishery resources consistent with national needs and goals. This Office has five major national programs: Marine Resources Monitoring, Assessment, and Prediction, environmental investigations; aquaculture, marine recreational fisheries, and marine mammal investigations.

RESOURCE ASSESSMENT

Marine Resources Monitoring, Assessment, and Prediction is a program that provides biological information for knowledgeable management and allocation of the Nation's marine fishery resources. The program encompasses the collection and analysis of data to provide basic information on abundance, location, and condition of the U.S. commercial and recreational marine fishery resources.

Table 2. Fisheries research and support vessels

Vessel	Length Ft	Home port	General area of operations	Use (program emphasis)
Albatross IV	187	Woods Hole, Mass.	NW. Atlantic	Resource Assessment
Geo. M. Bowers	73	Miami, Fla.	SE. U.S. Coast (inshore)	Invertebrate Assessment & Technology
John N. Cobb	93	Seattle, Wash.	NE. Pacific	Resource Assessment & Technology
Townsend Cromwell	159	Honolulu, Hawaii	Central Pacific	Resource Assessment
Delaware II	155	Sandy Hook (Highlands), N.J.	NW. Atlantic	Resource Assessment
Miller Freeman	215	Seattle, Wash.	Bering Sea, Gulf of Alaska	Energy-Related Biological Baseline Studies
David Starr Jordan	171	San Diego, Calif.	Eastern Central Pacific	Resource Assessment
Murre II	86	Auke Bay, Alaska	Alaska Coast (inshore)	Ecology, Oceanography, & Resource Assessment
Oregon	100	Kodiak, Alaska	Alaska Continental Shelf	Groundfish Assessment
Oregon II	170	Pascagoula, Miss.	Eastern Central Atlantic, Gulf of Mexico, & Caribbean	Resource Assessment
Pribilof	222	Seattle, Wash.	Seattle to Pribilof Islands	Freight cargo carrier

The elements of the MARMAP program include resource surveys, analysis of commercial and recreational fish catch data, fishery oceanography, and survey technology development. Resource Surveys are designed to collect information on all life stages of important fish and shellfish over as much of their range as possible. This information provides stock assessments free of biases inherent in commercial catch statistics, especially foreign statistics covering fishery stocks off our coasts that are harvested primarily by foreign countries. Fishery Oceanography deals both with the effects of man's activities and of natural environmental processes on living marine resources, as well as with the production potential of the marine ecosystem. Data Analysis correlates the results of surveys, catch statistics, and other biometric data with information on environmental conditions and food chain dynamics to help produce updated stock assessments. Survey Technology Development is concerned with developing more efficient equipment and methods, such as remote sensing techniques and automated laboratory procedures, to permit more efficient assessment of resources. Survey Technology Development also involves development of fishing systems designed to reduce catches of nontarget species caught unintentionally during commercial operations.

Surveys and Fisheries Analysis: The production and dispersal of larval sea herring were intensively monitored in collaboration with other members of the International Commission for the Northwest Atlantic Fisheries (ICNAF). Emphasis was placed upon the Georges Bank - Nantucket Shoals areas, where major spawning occurs. Assessment information, using MARMAP resource survey data and programs for commercial fishery analysis, was compiled on the status of the total resource under harvest in the Northwest Atlantic south of Nova Scotia. Summaries of MARMAP data provided major inputs to the management discussions within ICNAF and supported the readjustment of the total allowable catch (TAC) for 1976, which was reduced an average of 40 percent for half of the 20 stocks under TAC regulation.

The deep-sea crab population was surveyed on the continental slope of the northeastern United States. Information was published on the size of the population of red crabs, their distribution, and their size and sex composition. This information is vital for monitoring the developing red crab fishery in New England and predicting the availability of this resource.

The NMFS Middle Atlantic Coastal Fisheries Center established a biometrics unit in 1975 as an integrated approach to fishery management. The unit uses data from research surveys, commercial landings analyses, and recreational creel surveys. Yield models of the important Middle Atlantic fisheries for summer flounder and butterfish have been developed, and modeling of the fisheries for scup and surf clams has begun.

Extensive survey work is being carried out in the north central Gulf of Mexico to assess the vast groundfish resource and measure the amount of groundfish discarded by the Gulf shrimp industry. Studies are continuing on the biology, landing statistics, and stock identification of Gulf shrimp to develop an information base for management of the fishery.

Two cooperative international survey cruises, with participants from Brazil, French Guiana, and Guyana, delineated the qualitative and quantitative distribution of penaeid shrimp on the Brazil/Guyana grounds. Associated environmental conditions were measured from the vessel and by remote satellite/multispectral scanner imagery. The four species of shrimp in the area were distributed in distinct bands, similar in orientation and shape to turbidity strata seen through satellite imagery.

Data from logbooks maintained by the United States shrimp fleet in the United States-Brazil Shrimp Fishing Agreement area were used in the successful renegotiation of the Agreement in 1975.

Assessment of the groundfish resources from Seward in the Gulf of Alaska to Unalaska Island in the Aleutians was completed during 1975. This work, begun in 1972, revealed that the Kodiak Island and Sanak to Unalaska Island areas had the best potential for U.S. fishermen.

A three-vessel synoptic survey of the Pacific hake resource in the British Columbia-California Region used newly developed techniques for hydroacoustic assessment, along with midwater and demersal fishing gear. Results of the survey demonstrated that the pronounced southward shift in abundance first noted in 1973 continued in 1975. A significant decrease in total stock size was also noted.

Results of an analysis of the natural production of sockeye salmon in the Naknek and Ugashik Lakes systems of Bristol Bay provided revised estimates of adult escapements to each lake system. The results have direct application to forecasting sockeye returns in Bristol Bay, Alaska. Extremely cold temperatures since the winter of 1970-71 apparently caused increased mortality of eggs and larvae in the streams tributary to Bristol Bay and also of the salmon during their oceanic lives. These circumstances led to very low catches in 1972 through 1974. The 1976 sockeye salmon run to Bristol Bay is forecast to be about 10 million fish (the 1975 run was 24,149,000 fish). Being evaluated is a method of using scale characters to identify the Alaska and Asia components of the Japanese chinook salmon catch. Preliminary estimates show that over 80 percent (ca. 400,000 fish) of the Japanese high-seas catches of chinook salmon in 1969 and 1970 were of Alaska origin. This proportion is consistent with that inferred from limited tagging data.

Estimates by time and area of Japanese mothership catches of Bristol Bay sockeye salmon were used to negotiate protection for the 1975 run from high-seas salmon fisheries. An estimated two-thirds reduction in interceptions resulted. Information on interceptions of United States-Canada salmon by Japanese fisheries was compiled for bilateral discussions in early 1976.

A substantial body of evidence was developed showing poor or deteriorating condition of several stocks of groundfish in the Northeastern Pacific and Eastern Bering Sea. Drawing on the results of MARMAP resource surveys, analyses of foreign and domestic fishery data, and research of other agencies, a package of conservation recommendations encompassing the major fishery resources of the Northeastern Pacific Ocean and Eastern Bering Sea was developed. It has had immediate use in international negotiations and, with further refinements, will be a major element of the management program envisaged under extended jurisdiction. These recommendations formed the technical basis of the United States position in bilateral discussions with the Soviet Union and Poland, as was the case with Japan in 1974. These discussions resulted in agreements that, for the first time, placed some degree of control over all the fisheries of those nations in coastal waters of the United States. A highlight of the agreement with Poland is the unique imposition of direct limits on fishing effort, tying yield to stock condition.

Detailed estimates have been made for incidental catches of Pacific halibut by Japanese trawlers. It is estimated that the annual incidental catch in recent years has been about 2.5 to 3.5 million juvenile halibut. This information was used for negotiating United States-Canada-Japan recommendations for 1976 halibut conservation in the Eastern Bering Sea. From observations aboard Japanese trawlers, it is estimated that in recent years they have caught incidentally more than 100 million tanner crabs annually.

The Mexican Government is in the initial phase of developing a major commercial fishery for northern anchovy. As a result, the Service's Southwest Fisheries Center, the California Department of Fish and Game, and the Mexican Instituto Nacional de Pesca are developing cooperative research. A newly formed Stock Assessment Committee will oversee this work to conserve stocks of northern anchovy for rational use.

Fishery Oceanography: The distribution, abundance, reproduction, and growth of living marine resources are both directly and indirectly affected by changes in physical and chemical properties of the marine environment. A better understanding of these relationships helps predict year-to-year variations and differentiates natural variations from those induced by man's activities.

Major fishery oceanography activities at the Atlantic Environmental Group (AEG). Narragansett, R.I., are in support of MARMAP and NOAA marine environmental assessment studies. The Pacific Environmental Group (PEG), Monterey, Calif., describes broad-scale and long-term variations in the marine environment and pertinent bio-environmental relationships in the North Pacific. This information supplies the basis for conceptual or quantitative models for environmental and fishery predictions.

The Northeast, Southwest, Northwest, and Gulf Coastal Fisheries Centers conduct oceanographic investigations in support of fishery research activities. The Southeast Fisheries Center studies remote sensing and its applications to fisheries.

Significant accomplishments for 1975 included:

(1) Development of an index that relates the effect of the wind on ocean surface convergence/divergence. This material, along with the previously developed upwelling index time series, has been applied under a contract to Oregon State University in a stock-recruitment model of the Pacific mackerel fishery. This model predicts nearly 80 percent of the variance in recruitment.

(2) Continuation of a program of intensive ocean temperature measurements between the U.S. west coast and Hawaii to monitor the position and intensity of ocean fronts in the California Current.

(3) Studies by ultrasonic tracking techniques with concurrent oceanographic measurements demonstrating that oceanographic conditions play an important role in concentrations and movements of albacore tuna in U.S. coastal waters. Upwelling temperature fronts markedly influence the local concentration of albacore. The albacore tend to concentrate in the vicinity of upwelling fronts, presumably to feed, and to move away from the immediate area when upwelling ceases and the front no longer surfaces.

(4) Completion of a study on seasonal variation of temperature, salinity, and circulation in lease areas of the Gulf of Mexico off Galveston-Corpus Christi. A 3-year series of monthly survey cruises with supporting meteorological and runoff data revealed a clear pattern of variation strongly influenced by wind-driven circulation.

(5) Extension of subsurface temperature monitoring off the Atlantic coast with expendable bathythermographs (XBT) from ships-of-opportunity. Numerous sections were obtained from a U.S. Coast Guard cutter traveling between

Norfolk, Va., and Ocean Weather Station "Hotel" across the Northern Gulf of Maine, from Bar Harbor, Maine, to Yarmouth, Nova Scotia, and from the car ferry M/V Bluenose, through the cooperation of the Canadian National Railways.

(6) Continuation of studies of the environment and biota at "Dumpsite 106" (106 nautical miles SE of New York City) in cooperation with the NOAA Office of Marine Environmental Protection. A cruise was made on and near the dumpsite in July-August to determine the distribution and relative abundance of bathypelagic fishes in relation to environmental variables.

(7) Evaluation and modification of numerical ocean circulation models showing a single layer tidal model to be quite effective in increasing our knowledge of flow over the shallow continental shelf in the Eastern Bering Sea. The marked phase difference in tides between the Alaska Peninsula and the Soviet coast results in a strong along-shelf tidal flow rather than a characteristic onshore-offshore movement. This effect contributes to a long residence time of bottom water over the shelf and a marked frontal zone at the shelf edge.

(8) Preparation of an annual report, "The Environment of the United States Living Marine Resources, 1974" for the MARMAP program office. This document is the first annual summary of the status of the marine environment and of the actual and potential influences it has on the resources.

Survey Technology and Development: Initial analyses of onsite and satellite data from the LANDSAT (formerly ERTS Satellite) follow-on program indicate that good fishing areas may be identified from satellite multispectral scanner data alone.

A towed-array hydroacoustic system developed by the Northwest Fisheries Center in conjunction with the University of Washington Applied Physics Laboratory has been tested and is being used in the fish stock assessment survey in the Northeast Pacific.

A selective pollock trawl designed to avoid incidental catch of halibut and crab in the Bering Sea pollock fishery has been tested and evaluated, and a prototype design is being developed.

ENVIRONMENTAL INVESTIGATIONS

The long-term objectives of environmental and ecological research are to determine the factors influencing the production of living marine organisms and to establish baseline data for evaluating the ecological impact of man-induced and natural alterations. Also investigated are the cycling of pollutants through food chains and their effects on marine ecosystems and organisms.

Research involving relationships between petroleum oil and aquatic organisms was continued at Northwest Fisheries Center (NWFC) installations at Seattle, Wash., and Auke Bay, Alaska. Oil research at Auke Bay continues to emphasize toxicity, metabolism, and sublethal effects on specific organs, tissues, and enzymes. The overall investigations were strengthened considerably with the activation of a NOAA National Analytical Facility at NWFC, Seattle. The Kasitsna Bay, Alaska, field station continued research on the relation between environmental factors and the fluctuations in abundance of larval and postlarval stages of pandalid shrimp.

Several viruses have been discovered in resource species, including herpesviruses and papovaviruses in oysters and reoviruses in blue crabs. Two new invertebrate viruses were discovered in 1975; a herpeslike virus in blue crabs and particles resembling C-type oncornaviruses in oysters. The Middle Atlantic Coastal Fisheries Center established a National Registry of Marine Pathology (ROMP), which serves as a central reference service for clinical, illustrative, and published materials related to diseases of marine and estuarine vertebrates and invertebrates.

The Gulf Coastal Fisheries Center conducted studies on the effects of environmental change on the Gulf of Mexico. These studies are designed to investigate changes in the marine environment caused by man's activites such as dredging and filling, bulkheading, waste disposal, and drilling. Noteworthy accomplishments include completion of a study in agreement with the Corps of Engineers Waterways Experiment Station, including an inventory and assessment of the aquatic biota at the Corps' habitat development site on Bolivar Peninsula, Tex.; completion of four quarterly hydrographic cruises in the St. Andrew Bay estuarine complex of Northern Florida; and identification of 179 benthic species (10% new) in the nearshore zone of the Gulf of Mexico off Panama City Beach, Fla.

Major research by the National Systematics Laboratory included studies of epipelagic fishes, especially scombroids, needlefishes, and halfbeaks; benthic fishes, especially gadoids and ophidioids; penaeid shrimps; and crabs and other crustaceans. Significant accomplishments by the laboratory during the past year were publication of a comprehensive taxonomic study of the bonitos which allows identification, serves as a literature guide, describes anatomy, clarifies nomenclature, and describes distribution of these commercial species, some of which are underused; and scientific leadership of a NOAA project on the ecology of a deepwater industrial waste dumpsite near Hudson Canyon.

The Atlantic Estuarine Fisheries Center published the results of long-term research on ecological processes affecting the flow of energy and cycling of metals in symposium proceedings sponsored by the Estuarine Research Foundation. Subjects of five papers published included role of juvenile fish on the cycling of heavy metals, modeling the distribution and cycling of heavy metals in an estuarine ecosystem, standing crops of microbial populations in a coastal-plain estuary, consumption and utilization of food by postlarval and juvenile estuarine fish, and energy flow in an eelgrass community.

AQUACULTURE

Aquaculture has a high potential for augmenting the national supply of aquatic protein. It offers opportunity for making productive use of the Nation's brackish and salt waters, areas that are now scantily used for animal husbandry. Research supported by the Aquaculture Program is needed to make commercial production of selected species economically feasible and thereby encourage private investors to venture into aquacultural production. Research is also aimed at improving natural stocks for both recreational and commercial fishermen. Current work involves such species as Pacific salmon, penaeid shrimp, blue crab, and mollusks (oysters, clams, and scallops).

Research in salmon aquaculture continued at the Auke Bay, Alaska, Fisheries Laboratory and at the Manchester, Wash., facility, both components of the Northwest Fisheries Center. At Auke Bay, technology is being developed for restoring depressed salmon stocks by the release of juvenile salmon produced by new hatchery methods. Pilot demonstration projects produced 35,000 adult salmon weighing 100 metric tons in 1975. The number of fish returning per spawner varied from 15 to 45, compared with an average return of only 3 fish per spawner for natural recruitment. Research at the Manchester facility is directed at improving the production of salmon through culture in saltwater floating pens (pen-rearing). As a result of this research, the State of Washington began experimental pen-rearing of salmon in Puget Sound to increase production and provide "resident" fish for recreational and commercial fisheries.

Shrimp studies at the Gulf Coastal Fisheries Center, Galveston, Tex., in collaboration with Texas A&M University, helped solve problems inhibiting development of commercial shrimp farming. Notable accomplishments included maturation and spawning in ponds (through joint studies with Texas A&M University) of a group of shrimp (Penaeus stylirostris) that had been overwintered in raceways before their return to the ponds; experimental maturation and spawning of several captive specimens under laboratory conditions; design and construction of low-cost, portable raceway systems incorporating equipment for temperature control; and construction of new filtration equipment for waste removal and water recycling.

In March 1975, the molluscan aquaculture program was reestablished at the Milford, Conn., Laboratory of the Middle Atlantic Coastal Fisheries Center. Major thrusts of this program will include prophylaxis and treatment of diseases of larvae and juveniles in selected shellfish species produced in hatchery systems; genetic research on shellfish, including selection and inbreeding to develop strains optimally suitable for hatchery use; determination of the nutritional requirements of mollusks to replace costly living food systems with partially or wholly synthetic foods; and development of laboratory techniques for spawning, rearing, and maintaining commercial and potentially valuable marine mollusks.

Research at the Southeast Utilization Research Center was primarily concerned with studying nutritional requirements of juvenile blue crabs maintained in artificial seawater. Evaluations were made on how different levels of dietary proteins and amino acid supplements affect the growth rate. Effects of increased levels of dietary carotene and background light were also observed, as was effect of dietary cadmium on survival, growth, and physiology of of the blue crab.

At the Pacific Utilization Research Center components and byproducts of underutilized species, fishery wastes, and other sources were investigated for use as fish feeds.

Specific accomplishments were development of a process to extract carotenoid pigments from crustacea and crustacean wastes for inclusion in pen-reared salmonid diets (carotenoid pigments impart a desirable red coloration to the flesh, enhancing value and marketability); single-cell protein (SCP) derived from yeast was evaluated as a substitute for conventional pen-reared salmonid feed (substitution of SCP for up to 50% of the protein did not adversely affect the growth rate); and dogfish meal was found to be an unacceptable protein replacement in salmonid diets because it retarded growth and contributed mercury to the flesh at unacceptable levels.

MARINE RECREATIONAL FISHERIES

Research on species caught primarily for recreational purposes continued at all major NMFS Centers. The Northwest Fisheries Center conducted surveys in Puget Sound to identify concentrations of nonsalmonoid species that could provide additional angling opportunities.

This study generated important biological information that will be valuable for State management of recreational fisheries. Information on fish locations and angling techniques was published in local newspapers and outdoor magazines, and publicized by talks and displays at sportsmen's organizations, open houses, and clinics. Comparative studies were made on Puget Sound rockfish habitats in shallow and in deeper water.

The Southwest Fisheries Center, in cooperation with the California Department of Fish and Game, the San Francisco Tyee Club, and Sea Grant at the University of California, Davis, successfully reared and released 34,000 young coho salmon into San Francisco Bay. These salmon were reared at the Tiburon Laboratory dock in saltwater holding pens. Coho salmon from last year's modest release were caught in San Francisco Bay, indicating a good probability of success in establishing a new recreational San Francisco Bay fishery.

The Gulf Coastal Fisheries Center conducted life history studies on Gulf Coastal marine fish to provide information on life history and environmental parameters of recreational marine species. Significant accomplishments include: initiations of a tagging project in cooperation with State agencies to study movements and migrations of mackerels, sciaenids, and bothids; observation and description of the spawning behavior and egg and larval development of the spotted seatrout and red drum; and a comprehensive catch and effort study on the recreational fishery for king mackerel and other species in Bay County, Fla.

The Atlantic Estuarine Fisheries Center is assessing stocks of groupers, snappers, porgies, and other reef fishes in the area between Cape Hatteras and Charleston, S.C. Specific information is being collected on age and size composition, distribution, and abundance by species. The long-range goals are to manage these stocks for optimum sustained yield and to minimize any harmful effects to their habitat by petroleum and mineral exploration and development. This Center is also involved in the cooperative mackerel tagging project of the Gulf Coastal Center and is the repository for tagging information for the entire project.

The Middle Atlantic Coastal Fisheries Center completed a 1-year pilot study of recreational fishing in the Ocean City, Md., area in June 1975. This study covered both estuarine and offshore ocean fishing activities. Analysis of the estuarine survey data reveals that boat anglers fishing in the more than 16 square miles of estuaries spent some 165,000 hours on the water throughout the year and caught nearly 600,000 fishes with a total weight of over 700,000 pounds. Shore anglers, who fished about 70 miles of fishable bayshore, as well as from bridges, docks, jetties, and piers, spent over 130,000 hours and caught over 400,000 fish with a total weight of nearly 250,000 pounds. Of the nearly three dozen species of finfishes and a half dozen species of shellfish caught by all anglers in estuarine water, summer flounder was the most important by numbers, black sea bass was second, bluefish third, Atlantic croaker fourth, and blue crab fifth. Ranked by weight, summer flounder again was first, bluefish second, weakfish third, black sea bass fourth, and Atlantic croaker fifth. The total combined catch of boat and shore anglers in the estuary was 950,000 pounds of finfish or 93 pounds per acre. This Center is in the process of developing briefing books on 24 of the species important to recreational fishermen. The information included in these books covers taxonomy, life history, current and historical fisheries, and a bibliography.

The Northeast Fisheries Center continued to study the distribution and abundance of sharks with the aid of 1,500 cooperating sportsmen and commercial fishermen. The tagging program for blue sharks now shows an east-to-west, west-to-east transatlantic migration pattern for that species. The program's tags have been recovered from 18 different countries on both sides of the Atlantic. Unusual interest has been aroused in sharks during 1975, and the program has provided the press and broadcast media with considerable information; our shark program was featured in an article in the New York Times Magazine. Sharks, skates, and rays represent an important protein resource.

The Southeast Fisheries Center has analyzed information gathered during the SKYLAB-3 Gamefish Experiment. This analysis demonstrated that satellite and aircraft-acquired data could provide statistically valid correlations between the distribution of billfishes and selected oceanographic conditions including sea-surface temperature, water transparency, chlorophyll-a concentrations, and salinity. Because of the recent interest and concern about the status of the Atlantic bluefin tuna stocks, the Center has begun a large tuna research project at the Miami Laboratory. The movements of bluefin tuna are observed by tagging and remote sensing techniques, spawning locations are identified, sport and commercial catches are determined, biological parameters are investigated, and other information is gathered and analysed to manage this important species properly. In addition to the collection of statistical and catch data from about three dozen big game fishing tournaments annually, research is continuing on the biology and population dynamics of sailfish, blue marlin, and white marlin. Many of the State agencies are cooperating with our biologists in this important work.

MARINE MAMMALS

The National Marine Fisheries Service performs research on porpoises, whales, seals, and sea lions to provide information necessary for rational management policies.

The major research goals are to define the porpoise/tuna interaction and to develop improved fishing gear and techniques that can mitigate the incidental mortality of porpoises during tuna purse seine operations. To this end, the Service charters tuna purse seiners to test and evaluate the efficiency of various fishing gear under actual fishing conditions. Particularly encouraging and significant were the results obtained on a recent charter cruise of a San Diego-based purse seiner. This effort achieved an extremely low rate of porpoise mortality through the use of a newly developed system consisting of small-mesh net modifications including a porpoise apron, chute, and an enlarged safety panel designed to avoid entanglement by porpoises. Speedboats are used to hold the seine open. The mortality per set was only a tenth of the fleetwide average.

In cetacean research, emphasis was placed on determining the status of bowhead and several other harvested species of whales and evaluating Alaskan native harvest of bowheads. The study of killer whale populations in the inland waters of Washington and British Columbia was also continued. A new study to determine the distribution and abundance of humpback whales in the North Pacific revealed that at least 60 humpback whales are summer visitors to Southeastern Alaska.

On the Pribilof Islands, estimates of fur seal pups were obtained for all of the rookeries rather than for a selected few, as had been done since 1970. Analysis of 7 years' data showed that estimates of the total numbers of pups born on St. Paul Island's 14 rookeries can be determined with reasonable accuracy from estimates obtained from just 2 rookeries on that island, Plans to determine the effects of harvesting fur seals by observing both harvested (St. Paul Island) and unharvested (St. George Island) populations were developed and the tentative date for implementation is July 1, 1976.

RESOURCE UTILIZATION

There are many aspects of resource utilization in today's modern technological society. Between the "resource" and the "seafood product" lie such diverse activities as demonstration fishing, shipboard handling, storage studies, data collection and dissemination, market statistics, marketing research, inspection services, financial assistance, consumer education, and management planning. These range from providing assistance to industry to educating consumers about fishery products. All activities are aimed at supplying present and future generations with a continued abundance of wholesome, high-quality products from the sea. The primary responsibilities of the Office of Resource Utilization (ORU) are national oversight of such programs and assurance that they are in tune with the needs of the consumers.

The ORU must interrelate with the other Service activities in order to function effectively. It has an important role in determining fishery management and international fishery policies. Research, use, and management are like three sides of a triangle: to exist and be fully effective, each requires the other two.

The ORU program and activities include economic and marketing research and analysis for management as well as use of the resource, encompassing demand/supply projections, benefit/cost studies, and foreign trade evaluations; collection, analysis, compilation, and dissemination of fishery statistics and market news information; financial assistance in the form of loan guarantees and tax deferrals for construction or rehabilitation of vessels; microbiological, chemical, and technological research into improved use of the resource; voluntary fishery product inspection and certification; improvement of marketing practices and alleviation of short term, supply/demand imbalances; fishery educational services; coordination with industry of activities concerned with increasing fish and shellfish supplies from domestic fishery resources.

The Office of Resource Utilization has five Divisions: Industry and Marketing Services, Fishery Products Inspection and Safety, Statistics and Market News, Economic and Marketing Research, and Financial Assistance. The Office has Northeast, Pacific, and Southeast Utilization Research Centers; a National Fishery Education Center; and a Fishery Development Coordination Group.

UTILIZATION RESEARCH CENTERS AND NATIONAL FISHERY EDUCATION CENTER

The list of foods from the sea is enormous. Many people, however, never venture beyond the ever-popular can of tuna to more unfamiliar seafoods like canned minced clams or smoked oysters; frozen soft shell crabs or shrimp creole; bluefish, sea bass, or squid.

To provide present and future generations with a continued abundance and an improving use of wholesome high-quality fishery products, the three Utilization Research Centers (Gloucester, Mass., College Park, Md., and Seattle, Wash., carry on basic and applied research to develop and provide technological information and

related services that ensure more effective use of these resources. Fishery product research focuses on latent resources and their use, on improved feeds and nutrition for aquaculture, on product quality and safe microconstituents in seafoods, and on waste control in seafood processing.

To educate the consumer to purchase more and different seafood items, (from the individual housewife to the chain restaurant buyer) the National Fishery Education Center at Chicago spearheads the Service's activities in consumer education. This Center provides the Service with the ability to develop, catalog, retrieve, and disseminate consumer and trade information to all levels of Government, industry, trade associations, academia, individual consumers, and consumer advocate groups.

Significant accomplishments: Helped Texas A&M University establish a pilot minced-fish processing plant at Corpus Christi, Tex., with research centered on the technical feasibility of producing blocks of minced flesh from groundfish species in the Gulf of Mexico (the plant represents a milestone in our efforts to increase use of Gulf groundfish); investigated treatments of fishery waste and physical-chemical effluents in cooperation with Pacific coast fish processors (variables in the removal of solids and scales by screening and physical-chemical methods were demonstrated so that industry could select the most practicable methods for meeting EPA guidelines for seafood effluents); developed a Bicentennial logo for the fishing industry; published "A Seafood Heritage from America's First Industry," a 25-portion recipe booklet; developed a full-color chart showing representative marine mammals in their natural habitats; and designed improvements for commercially available equipment for heading and gutting (the resulting minced fish product is free of black specks and less prone to rancidity).

FISHERIES DEVELOPMENT GROUP

The Fisheries Development Coordination Group coordinates Service activities concerned with increasing fish and shellfish supplies from domestic fishery resources. When fishery development is successful, "resources" are turned into "seafood products"; characteristically, an unutilized or underutilized species is promoted to its fullest use consistent with conservation principles and consumer interests. Successful development programs include those for rock shrimp, king crab, calico scallops, and offshore lobsters.

Significant accomplishments: Through vessel charters, the New England Fisheries Development Program demonstrated improved onboard holding techniques for trawl-caught industrial fish. Results indicate that fish held in chilled seawater are superior in quality to those held in conventional iced storage. Based on this initial finding, the Program converted a herring transport vessel to accommodate bulk holding in chilled seawater. The vessel's holding tank held 125,000 pounds and, in tests, maintained herring catches in food-grade condition for up to 60 hours. Present methods allow a holding time of only 5 to 6 hours and limit the New England herring fleet to inshore fishing grounds. With this new technology, catches can be transported from distant fishing grounds (such as the Bay of Fundy and Georges Bank) and will enable the United States to use its full ICNAF herring quota. Herring that are now used for fish meal will be available for human consumption.

Under a New England Program contract, the University of Maine Agricultural Engineering Department designed a chopping and bagging machine for lobster bait. The Fisheries Development Corporation, a nonprofit association of Maine fishermen, operated the machine as a pilot project to test its commercial feasibility. The machine packaged trawl-caught "trash" fish in 1-pound bait bags at prices competitive with traditional lobster baits. The project has successfully solved problems of using fish that otherwise would be discarded to provide a constant supply of low-cost bait.

The trawling demonstration phase of the Central and Western Pacific Tuna Development Program was completed during 1975 using a 50-foot research vessel loaned by the Government of American Samoa with standard West Coast commercial trawling methods and gear. The results showed an insufficient catch rate to support a large West Coast trawler. Other skipjack tuna harvesting technologies under this program will be devoted to bait fishing and purse seining.

INDUSTRY AND MARKETING SERVICES DIVISION

This Division provides the services and expertise to help industry move seafood from the water to the grocery bag efficiently and economically. Based on the Service's research and studies, expert advice is available on processing and pollution abatement, microconstituents in seafoods, vessel safety and insurance, and marketing practices.

Significant accomplishments: The Emergency Marketing Program continued to help alleviate fisheries products supply/demand imbalances. Four major marketing efforts were initiated--during spring, summer, fall, and winter holidays. Alarmingly high inventories of early 1975 were reduced to normal levels through our marketing efforts in cooperation with State marketing programs, USDA Cooperative Extension Service, major retail food chains, and the food service industry.

The First Interim Report of a study on trace elements in fish and shellfish (including data on nine elements in 106 species) was issued. This study will eventually provide baseline levels for 15 trace elements in over 200 species of U.S. fish and shellfish of significant commercial and recreational interest. When completed, it will be the most comprehensive survey of trace elements in fish and shellfish.

Regulations were issued to designate three additional fisheries as "conditional" fisheries (50 CFR Part 251). The purpose is to improve financial assistance by limiting it to those projects which are consistent with judicious use, development, advancement, management, conservation, and protection of fishery resources. Designated as "conditional" fisheries in 1975 were the American lobster in the Gulf of Maine; the king crab in Alaska; and salmon in California, Oregon, and Washington.

Assistance was provided in developing a vessel insurance system and a vessel safety program. Legislation incorporating both vessel insurance and safety was drafted and introduced as H.R. 9716.

Attention was given to developing the U.S. position on tariff and nontariff barriers to international trade in fish and fishery products under provisions of the Trade Act of 1974. Positions developed apply to trade negotiations under the General Agreements on Tariffs and Trade. All dutiable fishery products were reviewed with emphasis on selecting products to be included in a Generalized System of Preferences list of duty-free items for less developed countries.

FISHERY PRODUCTS INSPECTION AND SAFETY

The missions of the Fishery Products Inspection and Safety Division are to provide an impartial seafood inspection and product certification system on a voluntary and reimbursable basis to assist national and international trading in fishery products; provide consumers with quality choices in the marketplace, as well as safety assurances, through protection against contaminated fishery products; help industry upgrade plant sanitation and improve product quality in preparation for mandatory inspection of fishery products and plants; educate both consumers and trade to demand and produce safe, wholesome, high-quality seafoods; and provide assistance to the Codex Alimentarius Commission in developing and establishing international standards for foods.

Significant accomplishments: In 1975, 623 million pounds of products were inspected, approximately doubling the 1974 volume. Establishments enrolled in the "Packed Under Federal Inspection Program" increased from 41 in 1974 to 52 in 1975. Nine tuna canning plants representing three of the major tuna processing firms entered the inspection program. Educational materials on the value of product inspection were developed and distributed, and articles on the inspection program published in trade journals. Informal materials for high school use were also developed.

A new Memorandum of Understanding (MOU) was signed with the Food and Drug Administration and the USDA. The MOU documents the FDA and USDA recognition of our expertise in fish meal inspection and provides a cooperative working agreement regarding the USDC fish meal inspection and certification program.

A study on developing market names for fishery products was completed. The proposals will be reviewed by our Service and other interested parties, and a committee will be formed to evaluate the new market names. An audiovisual presentation of the study has been prepared and is being circulated.

International Standards for Canned Crab Meat and Frozen Shrimp were completed and submitted for consideration by the Codex Alimentarius Commission. The Standards, when approved by the Commission and adopted by member nations, will serve as the basis for international trading of these commodities.

STATISTICS AND MARKET NEW DIVISION

This Division collects statistics and publishes the Fishery Market News Report and statistical reports on inland and marine commercial fisheries and on marine recreational fisheries.

The Fishery Market News Report includes current information on prices, market conditions, production, imports and exports, cold storage holdings, and market receipts of fishery products. As space permits, it also includes information from scientific publications and legislation pertinent to fisheries. Market News Reports and weekly summaries are issued three times weekly by our offices in Boston, New York, New Orleans, Terminal Island, and Seattle.

Inland and marine commercial fishery statistics are collected at 38 field stations in cooperation with the States, and published by the Division headquarters staff. These statistics cover the fishing and the fish processing industry, including historical data on landings, exvessel prices, production of processed products, foreign trade, and other aspects of the industry. In 1975 more than 250 statistical reports were published.

Marine recreational fishery statistics collected and disseminated by the headquarters staff, include data on landings by species and region, and on participation by area fished.

Significant accomplishments: Cooperative State/Federal statistics programs were continued in 1975. Most Atlantic and Gulf Coast States now collect commercial fishing data in cooperation with the Service. A few, such as Florida and Texas also process the data for publication (a task formerly handled by the Service). Several inland States now collect and furnish data on their own fisheries. To eliminate duplication of effort on data collection from fish processing firms, the State of Washington will take over almost the entire task formerly done by the Service. Progress has been made with the States of California, Oregon, and Washington in developing a coastwide data system for fisheries.

The Market News Reports were converted from free service to paid subscription on July 1, 1975. This change was recommended by the General Accounting Office. As of December 31, 1975, slightly over 4,400 subscriptions had been sold.

ECONOMIC AND MARKETING RESEARCH DIVISION

Economic research and analyses are used primarily for decisionmaking by the Service, other Government agencies, the fishing industry, investors, financial institutions, and the general public. They help decisionmakers anticipate pending market developments and supply a basis for business and policy decisions, promoting efficiency and increased stability of seafood markets. The major programs include fisheries utilization and management and marketing research. These programs serve the dual purpose of providing analytical support for the Service's policy and program functions, and economic analyses of market conditions for industry and consumer.

The Division principally undertakes short- and medium-term studies of economic aspects related to extended jurisdiction. Additionally, effort is devoted to improving the economic data base for marine fisheries with respect to cost and earnings of fishing vessels, marketing margins for fishery products, market structure of the fishing industry, analyses of demand for fisheries products, international trade in fisheries products, and economic value of activity associated with marine recreational fishing. Market research and other analyses of current events, including short term forecasts of market conditions, provide timely information on economic conditions affecting the fishing industry and consumers. Information is disseminated through serial publications and special reports.

Significant accomplishments: Studies and reports were issued on the following: role of shrimp imports in the U.S. seafood market, impact of depressed markets on shrimp fleets, foreign investment in the commercial fishing industry, economic impact statement related to tuna-porpoise catches, marketing margins for fisheries products, value of marine recreational fishing to the U.S. economy, utilization capacity of U.S. fishing vessels and processing plants, and potential for fresh fish marketing through retail chains.

Three issues of each of the following three market review and outlook reports were released: Shellfish Market Review and Outlook, Food Fish Market Review and Outlook, Industrial Fishery Products Market Review and Outlook. Twelve issues of Operation Fish Watch, a retail price survey of fish and meet products, were also published.

FINANCIAL ASSISTANCE DIVISION

The Financial Assistance Division administers four fishery financial assistance authorities known as the Fishing Vessel Obligation Guarantee Program; Fishing Vessel Capital Construction Fund, Fisheries Loan Fund, and Fishermen's Guaranty Fund Program. These programs were established to help make the harvesting segment of the fishing industry more efficient and competitive. The common purpose of the first three programs is assisting industry to finance investments in vessels and gear. The fourth indemnifies against financial losses of U.S. vessels seized by foreign nations.

Significant accomplishments: The Fishing Vessel Obligation Guarantee (FVOG) Program (46 U.S.C. 1271 et seq) made progress during 1975 in developing reasonably priced sources of long term credit under this program (which guarantees private credit for net-ton-or-over fishing vessel construction or rehabilitation). Guaranteed financings during 1975 had an average maturity of 13.5 years and an average interest rate of 8.74 percent. Outstanding guarantees and application on hand at the end of 1975 totaled $41 million. This was $16 million in excess of the $25 million guarantee ceiling assigned to the fishery portion of the $7 billion Departmental authority.

The Fishing Vessel Capital Construction Fund (FVCCF) Tax Deferral Program (46 U.S.C. 1177) was stabilized by development of a partial set of permanent tax regulations. Tax deferred deposits at the end of 1975 were $63 million, while withdrawals were $38 million. These tax deferred funds are used for fishing vessel (5 net tons or over) construction and reconstruction.

Informative brochures were issued describing the FVOG and FVCCF Programs.

The Fisheries Loan Fund (FLF) program (16 U.S.C. 72c) continued under moratorium. A draft bill has been submitted to amend and reactivate the program.

The Fishermen's Guaranty Fund (FGF) Program (22 U.S.C. 1971 et seq) paid $1.9 million in claims during 1975 as a result of Ecuadorian seizures of United States tuna vessels. Of the 176 vessels that participate in this program, only 7 were involved in the Ecuadorian seizures.

RESOURCE MANAGEMENT

The Office of Resource Management plans, conducts, and evaluates programs to improve State and Federal management and protection of fisheries, marine mammals, endangered species, and their environments. It also supervises the Columbia River Fisheries Program and is responsible for Pribilof Islands Management. These activities require cooperation with other Federal agencies, including the Department of State, Coast Guard, Environmental Protection Agency, Army Corps of Engineers, Fish and Wildlife Service (FWS), Marine Mammal Commission, and Bureau of Customs. Close cooperation is also required with interstate bodies such as the Atlantic States Marine Fisheries Commission, Gulf States Marine Fisheries Commission, Great Lakes Fishery Commission, and Council of State Governments; as well as with the fish and game agencies of the 50 States, Puerto Rico, Virgin Islands, Guam, and American Samoa. Prominent conservation organizations are consulted frequently. The Office is organized into four divisions: Environmental Assessment, Fisheries Management, Law Enforcement, and Marine Mammals and Endangered Species.

ENVIRONMENTAL ASSESSMENT DIVISION

The Environmental Assessment Division's (EAD) mission is to gather, analyze, and apply environmental data to provide decisionmakers with scientifically valid options to protect, restore, and improve living marine resources and their habitats. EAD biologists evaluate proposed projects and advise the constructing, licensing, or permitting Federal agency of potential adverse effects of these proposals. They coordinate with concerned State and Federal agencies to develop project modifications that will protect or improve fish habitat, or mitigate losses that cannot be avoided. EAD actions are effected by reviewing and reporting on proposals such as dredge-and-fill projects, waste discharge and ocean dumping permit applications, proposed construction in navigable waters, environmental impact statements, powerplant applications, and other proposed water development projects, public or private, requiring Federal permit or license.

Operations have been initiated to deal with new responsibilities related to accelerated energy developments and Coastal Zone Management Act (CZMA) activities. The Energy Projects Coordination Unit and Regional EAD offices contributed to development of environmental assessment procedures for deepwater port applications and Outer Continental Shelf oil and gas leases. Coordination with the Water Resources Council was increased during 1975.

Significant accomplishments: The Division initiated an Early Warning System to provide advance notice of events affecting NMFS areas of responsibility. Construction, permitting, and licensing actions with potential impacts beyond the regional level are reported to the Central Office. The system provides decisionmakers the opportunity to assess and resolve potential problems.

To minimize damage to the endangered shortnose sturgeon in the Kennebec River, Maine, the Division secured an alteration in the Corps of Engineers dredging timetable and method.

Acceptance by the Bureau of Reclamation of the Northwest Division's design recommendations at the State of Washington's Bumping Lake Enlargement will add an estimated value of approximately $9.4 million annually to anadromous fish in the Pacific Northwest. These designs relate to volume of water releases, fish passage at dams, hatcheries, and resource enhancement measures.

In Alaska, EAD cooperated in formulating procedures to minimize adverse environmental impacts during gas and oil exploration and recovery on the Outer Continental Shelf. NMFS recommended deferral of nearly 70 percent of the proposed sale area in the Northeast Gulf of Alaska; currently about 40 percent of the proposed area has been deferred. Portions recommended for deferral either had high resource value or were areas with long-persisting impacts from oil.

The Service began participation as a full member of the National Coordinating Committee (for Fish and Wildlife in Water Resources Planning and Development Activities) joining with the State fish and game agencies and the U.S. Fish and Wildlife Service for more effective action toward fish habitat conservation. The committee is composed of Federal and State agencies and private conservation groups.

FISHERIES MANAGEMENT

The Fisheries Management Division is responsible for stimulating multijurisdictional fisheries management activities. The Division also administers the provisions of the Commercial Fisheries Research and Development Act, PL 88-309, as amended, and the Anadromous Fish Conservation Act, PL 89-304, as amended.

Significant accomplishment: About 1,400 copies of "To Stem the Tide", an 88-page booklet published by the Council of State Governments under contract with the National Marine Fisheries Service, have been distributed to key

State legislators and fishery administrators. This booklet contains the "model" State fisheries management code and explanatory material.

Approximately 35 projects were completed under the grant-in-aid programs, including a survey of the small-trawl fishery in Alabama, effects of cage fish culture on the environment in Arkansas, biological studies and exploratory fishing for rock shrimp in Florida, channel catfish investigations in Iowa, and the environmental effects of an escalator dredge in Maine. Disaster aid was provided for restoration of Chesapeake Bay oyster resources that had been damaged or destroyed by Tropical Storm Agnes. About 35 scientific publications have resulted from these programs.

During 1975, the South Atlantic Regional Resource Council representing Florida, Georgia, South Carolina, and North Carolina began to study the possibility of regional licensing of shrimp fishermen. Menhaden regulations initiated in 1974 in the Gulf of Mexico remained in effect, resulting in substantial savings to that important industry. Approximately 60 State actions have been taken in the 11 Northeastern States to implement a negotiated 10-point management program for American lobsters.

ENDANGERED SPECIES PROGRAM

The Service's Endangered Species Program provides for the management and conservation of endangered and threatened species of fish and wildlife, pursuant to the Endangered Species Act of 1973. The Department of Commerce has jurisdiction over those marine species listed as endangered or threatened, including bowhead, sei, blue, fin, gray, right, humpback, and sperm whales, Mediterranean monk seal, shortnose sturgeon, leatherback sea turtle, hawksbill sea turtle, and Atlantic ridley sea turtle. Jurisdiction over sea turtles is currently shared with the Department of the Interior.

The Act, with certain exceptions, prohibits the taking, importing, or exporting of endangered species and their parts or products. For threatened species the Act authorizes discretionary rule-making to provide for species conservation. Administrative responsibilities include development and review of regulations; the conduct of and representation at required hearings; review and study of State laws and regulations, management programs, and compliance with Federal regulations; administration of grants and contracts to assist in developing and implementing State programs for the protection of endangered and threatened species; issuance of permits for takings, imports, and exports; and review of applications for scientific research, propagation, survival, or economic hardship exemptions. Determination to grant or deny a permit application involves a thorough review of the application, which may include scientific evaluation by State and Service officials, and inspection of the applicant's facilities. Public comments are solicited and considered on each application.

The primary enforcement responsibilities during the formative period of the Act's administration were directed toward prohibiting unauthorized importation of endangered species and their parts or products. Enforcement is also being directed at the taking, possession, sale, delivery, and transportation of listed species in the United States and at monitoring endangered or threatened species held in captivity in the United States for scientific, propagation, or survival purposes.

This year's activity, although limited, primarily was to develop scientific documentation on the status of species being considered for listing: green, loggerhead, and Pacific ridley sea turtles; Atlantic bluefin tuna, and Hawaiian monk seal.

To implement more effectively the provisions of the Act, the Service has held meetings with representatives of States and other Federal agencies. Additionally, in an attempt to encourage the development of State/Federal cooperative agreements for the implementation of the Act, procedures, guidelines, and a model cooperative agreement were developed in conjunction with the Department of the Interior. Formal applications for cooperative agreements have been submitted by 12 coastal States. States that enter these agreements will manage the taking of certain indigenous endangered or threatened species and will be eligible for financial assistance from the Federal Government on a matching basis.

The Service received its first appropriated funds (nine positions and $400,000) for activities under the Endangered Species Act in November 1975, about halfway through FY 1976. Before that time funding had been very limited and obtained through reprograming.

Significant accomplishment: A model for State/Federal Cooperative Agreements was developed by our Service and FWS and transmitted to the States in August 1975 for comment.

Regulations to govern State/Federal Cooperative Agreements and grants to the States were proposed, and regulations were developed to manage the Atlantic bluefin tuna under the Atlantic Tunas Convention Act (passed in the summer of 1975). Accordingly, action to list this species as threatened under the Endangered Species Act was vacated.

Our Service and FWS proposed to list green, loggerhead, and Pacific ridley sea turtle as threatened species, and a Draft Environmental Impact Statement was prepared. Nine scientific

purposes permits involving several whale species and the endangered shortnosed sturgeon were issued.

Our Service and FWS jointly published a public notice regarding Federal agency responsibiilities on the concept of critical habitat and jointly chaired a Federal Interagency Committee to develop guidelines for interagency cooperation and critical habitat responsibilities under Section 7 of the Act.

MARINE MAMMALS

The Marine Mammal Program carries out the Service's responsibilities for the conservation, protection, and management of whales, porpoises, seals, and sea lions under the Marine Mammal Protection Act of 1972. This Act, with certain exceptions, placed a moratorium on the taking and importation of all marine mammals and marine mammal products. Our authority under the Act includes decisions regarding waiving the moratorium, issuance of permits for scientific research and public display, enforcement of the provisions of the Act, research and surveys to determine the status of marine mammal population stocks, cooperation with States, and international activities and agreements to conserve and manage marine mammals.

A high priority during 1975 was the porpoise/tuna interaction program that was directed at developing fishing gear to reduce porpoise mortalities that occur during yellowfin tuna purse seining operations, assessing the status of those stocks of porpoise involved in the eastern tropical Pacific yellowfin tuna fishery, and promulgating regulations to protect marine mammals. Promising gear developments have been tested including porpoise safety panels, porpoise aprons, and speed boats to hold the nets open. In connection with this program, 30 observers were assigned to purse seiners during 1975, over 80 seiners were inspected for required gear modifications, and 12 training sessions on porpoise-saving techniques were held for tuna-boat captains.

The 27th session of the International Whaling Commission, June 1975, established a new management procedure involving selective moratoria for all stocks of whales when they drop below a predetermined population level. The initial effects are complete protection for fin whales, (with the exception of one area in the Antarctic and two small areas in the North Atlantic) and sei whales in the North Pacific and one area of the Southern Hemisphere. Catch limits for the 1975-76 Antarctic season and 1976 seasons in other oceans will reduce the 1974-75 recommended catch limit by about 8,500 whales, since all member nations have agreed to comply with recommendations of the 27th IWC session.

Significant accomplishment: Regulations were published in the Federal Register governing the reissuance of general permits for 1976 allowing commercial fishermen to take marine mammals incidental to commercial fishing operations. These regulations provide for five general permits, based on the type of fishing gear. After permits are issued, certificates of inclusion may be issued to individual fishermen for 1976 fishing operations.

Thirty-nine applications for scientific research and public display permits were pending at the beginning of 1975, and 43 additional applications were received during the year. Of these 82 applications, 29 were for scientific research and 53 for public display. During 1975, 56 applications were approved, 3 denied, 1 inactivated, 5 returned, and 12 were pending as of December 31, 1975.

The following reports were prepared: "Report of the Secretary of Commerce on Administration of the Marine Mammal Protection Act, from May 1, 1974, through March 31, 1975," "Report on the Progress of Research on Porpoise Mortality Incidental to Purse-Seine Fishing for Fiscal Year 1975," "Draft and Final Environmental Impact Statements (EIS) for Promulgation of Regulations To Govern the Taking of Marine Mammals Incidental to Commercial Fishing Operations," "Draft EIS on Consideration of Waiver of the Moratorium on the Importation of South African Sealskins," and "Draft EIS on Renegotiation of Interim Convention on Conservation of North Pacific fur seals."

Administrative policies were formulated and published in the Federal Register for establishing a standardized procedure for applications for marine mammal and endangered species permits, and for issuances of permits for the taking of pregnant, nursing, and infant marine mammals.

PRIBILOF ISLANDS MANAGEMENT

The Fur Seal Act of 1966 (16 U.S.C. 1151-1187) charges the Secretary of Commerce with the management of the Northern fur seal and administration of the Pribilof Islands. It also implements for the United States the Interim Convention on Conservation of North Pacific Fur Seals between Canada, Japan, the Soviet Union, and the United States--a treaty to protect Northern fur seals. The Convention requires management of the seal herds to achieve maximum sustainable productivity and requires sharing of the pelts taken during the yearly harvest, with Canada and Japan. The 1975 harvest on St. Paul was 28,849, of which 20,195 are the United States share and 4,327 each the shares of Canada and Japan.

The Act also requires that the Service conduct scientific research of the fur seal herds, employ natives of the Pribilof Islands, and provice the natives of the islands with education, food, fuel, and shelter.

Northern fur seals are now harvested only on St. Paul Island. St. George Island had been designed a center for marine mammal conservation and scientific research through agreement with governments involved in the Interim Convention on Conservation of North Pacific Fur Seals. Data gathered will be used in management programs.

The Alaska Native Claims Settlement Act of 1971 has resulted in tentative agreement between the Service and the Pribilof Islands native corporations, Tanadgusix Corporation of St. Paul, and Tanaq Corporation of St. George, on the retention by the Federal Government of certain land and buildings, including the fur seal rookeries. The two corporations will receive title to over 90 percent of the land and most buildings, and will issue title to the individuals occupying the homes as primary places of residence.

Significant accomplishments: The M/V Pribilof used for freighting between Seattle and the Pribilof Islands was sold to the Aleut Corporation, removing National Marine Fisheries Service from the freighting business and releasing 19 permanent positions. A long-term transportation agreement was signed with the Aleut Corporation guaranteeing freight service between Seattle and the Islands.

The North Pacific Fur Seal Conference, December 1-12, 1975, resolved to recommend to the respective Party Governments (United States, Canada, U.S.S.R., Japan) further amendment of the Interim Convention on Conservation of North Pacific Fur Seals, signed at Washington, D.C., Feb. 9, 1957, as amended, by concluding a protocol conforming to an agreed draft, at the December 1975 Conference. The revised Convention embodies several principles which the United States advanced, including recognition of humane harvesting practices, the subsistence needs of the Aleuts of the Pribilof Islands, effects of man-caused environmental changes, and the effect of commercial fishing on fur seals.

New quarters for 20 staff and research personnel were completed. Nearing completion were an office/laboratory complex, a freight-receiving warehouse, and airport facilities on St. Paul Island.

Tentative agreement was reached with the Tanadgusix and Tanaq Corporations regarding land and building transfers under the Alaska Native Claims Settlement Act, and the creation of a joint administrative management committee.

LAW ENFORCEMENT

Fisheries enforcement in the Service monitors domestic and foreign fisheries operations consonant with the national goal of conservation of living marine resources; ensures compliance with provisions of 21 international treaties and agreements; and enforces the provisions of the Bartlett Act, which prohibits fishing by foreign vessels in U.S. territorial waters and the contiguous fishery zone, and the intentional taking or retention of Continental Shelf fishery resources. Enforcement activities at sea are largely accomplished in cooperation with the U.S. Coast Guard. The Coast Guard provides aerial and surface patrol facilities; the Service provides enforcement and fishery expertise.

Surveillance gathers knowledge of the innovations and trends in foreign fishery operations, estimates catch by quantity and species, and permits timely assessment of fleet composition and movement. This information is used in formulating U.S. fisheries policy and establishes a sound basis for ations with other nations. Regional enforcement and surveillance emphasis is directed toward defined problem areas. Frequent foreign fisheries violations of U.S. jurisdictional waters off Alaska and the Northeast Coast emphasize the need for constant aerial and surface patrols.

In the Pacific Northwest, protection of salmon migrations under terms of international agreements is a primary concern, while major efforts in the Southwest are directed toward gaining compliance with yellowfin tuna regulations and Marine Mammal Protection and Endangered Species Acts. The Southeast Region is actively concerned with enforcement of the Marine Mammal Protection and the Endangered Species Acts. This region also administers the United States-Brazil Shrimp Fishing Agreement.

International agreements affecting the Northwest Atlantic fisheries require increased attention to assure compliance with annual and species quotas, and restrictions regarding the taking, possession, importation, and exportation of certain marine mammals, endangered species, and related products. Additional responsibilities are enforcement of Federal statutes and regulations authorized in various international compacts regarding the possession and transportation of illegally taken fish and wildlife. Cooperative working agreements with State and other Federal agencies have been established wherever such arrangements facilitate the achieving of program objectives.

Significant accomplishments: Enforcement actions included seizure of 21 foreign vessels in violation of fishery treaties or regulations, resulting in penalties in excess of $3.7 million; investigation of 195 cases involving marine mammals and related products, with seizure of various quantities of stuffed seals, sealskins, and clothing that violated the Marine Mammal Protection Act of 1972; investigations of 381 cases involving endangered species and related products, including seizures of quantities of

sperm whale oil and teeth, raw baleen, and scrimshaw.

Surveillance activities included sightings of over 13,300 fishing vessels in the various controlled fishing areas. Enforcement agents made boarding inspections of 714 foreign and 803 domestic fishing vessels. These activities involved 1,700 employee-days and 280,000 miles of surface patrols; 3,500 employee-hours and 374,000 miles of aerial patrols. Cooperative enforcement agreements with five coastal States under the Marine Mammal Protection Act resulted in over a million additional patrol miles, 110 investigations, and the seizure of a variety of marine mammal parts and products.

COLUMBIA RIVER FISHERIES DEVELOPMENT PROGRAM

The mission of the Columbia River Fisheries Development Program is to restore, maintain, and enhance the fish runs of the Columbia River, to offset runs lost by construction of dams and other water diversion projects.

In 1975 the salmon and steelhead escapement to the upper Columbia River remained at a critical level. Lower river runs of these fish were generally average, but some stocks had encouraging increases. The Spring Creek National Fish Hatchery responded to its recent enlargement by providing a huge return of fall chinook salmon. When egg commitments were fulfilled, the entrance from the river to this hatchery was blocked and Indians were allowed to fish in the formerly closed river area adjacent to the station. They took an estimated 50 tons of surplus fall chinook salmon.

Significant accomplishments: Plans for pollution abatement facilities at 20 hatcheries were completed by a consulting engineering firm. One hatchery pollution abatement facility is now in operation, and two more are under construction.

Recovery of marked coho salmon from the 1971-brood Homing Study was completed. In this study two groups of coho of equal size and number were released at different locations; one group at Youngs Bay near the mouth of the Columbia River and one at Willard National Fish Hatchery 140 miles from the ocean. Sampling for these fish took place in the ocean and river recreational and commercial fisheries. Preliminary results show the Youngs Bay release with a 3 to 1 contribution advantage over the hatchery release in the Little White Salmon River.

A tagging study of the 1970-brood of Columbia River Hatchery spring chinook salmon was completed. Fish had been marked to determine their Pacific coast distribution, contribution, and value. Preliminary data indicate that these spring chinook contribute primarily to Alaska, Canada, and Washington ocean recreation and commercial fisheries, and Columbia River recreational and commercial fisheries. Very few spring Chinook were noted in the coastal fisheries of Oregon and California.

Approximately 2.9 million pounds of young salmon and steelhead trout in hatcheries and rearing ponds operated by the U.S. Fish and Wildlife Service and the State fish and game agencies of Washington and Oregon (and funded by the National Marine Fisheries Service) were released from Columbia River hatcheries. It is estimated that this level of hatchery production will provide 30 million pounds of fish for recreational and commercial fisheries.

INTERNATIONAL FISHERIES

The Office of International Fisheries coordinated NMFS participation in international activities concerning living marine resources of interest to the United States. It is organized into three divisions--International Fisheries Analysis, International Negotiations, and Language Services--and provides staff support for bilateral claims boards.

INTERNATIONAL FISHERIES ANALYSIS

The Division of International Fisheries Analysis collects, evaluates, and disseminates information on late developments in world fisheries. The Division receives data from many sources, including reports prepared by commercial and economic officers of U.S. embassies, information from the four Regional Fishery Attachés, reports of fishery ministries and agencies, foreign fishery publications, and trade journals. Background materials, necessary in determining the U.S. policy concerning high-seas resource conservation and management, international trade in fishery products and intergovernmental development programs, are supplied and evaluated, especially as they affect the U.S. domestic industry or U.S. Government policies and programs.

The Division's area specialists revise the fishery reporting requirements of the Department of State, and serve on bilateral negotiating teams as required. Close contacts are maintained with the U.S. fishing industry on problems and programs relating to its foreign fisheries. The Division responds to inquiries for trade information, historical data, and current trends in foreign fisheries and foreign fishing industries.

Significant accomplishments: Two comprehensive surveys on the fisheries of Panama and Denmark were published and a major background report on trends in fisheries of the Union of Soviet Socialist Republics was prepared at the request of the Joint Economic Committee of Congress. A timely analysis of the shrimp catch

and trade in 12 major shrimp exporting countries in Latin America, Africa, and Asia was published. U.S. industry is vitally concerned with current stocks and future supply.

Over 3,000 cables and dispatches from U.S. foreign posts abroad were processed and analyzed, and a total of 266 information releases, covering the economic, technological, and political developments in the world's fisheries were disseminated to U.S. Government and private industry. Foreign fishery publications received increased from 150 to over 320. Contacts with U.S. Foreign Service Regional Fishery Attachés in Casablanca (Africa), Copenhagen (Western Europe), Mexico City (Central and South America), and Tokyo (Asia and Australia) were strengthened.

INTERNATIONAL NEGOTIATIONS

The International Negotiations Division prepares position and background papers, advises the Chairman of the United States Delegation, and is responsible for implementation of international fisheries policy.

In 1975, the United States was a member of eight international fisheries commissions, under treaty agreements to conserve and manage living marine resources of interest to the United States. It was also a party to 12 bilateral fishery agreements adopted to deal with more specialized management problems. In most cases, our Service has primary responsibilities for making the scientific and technical assessments and investigations to determine the international measures needed to protect living marine resources. Service officials have been appointed to serve as U.S. representatives in bilateral negotiations or as commissioners on several of the international fisheries commissions.

Significant accomplishments: As a result of renegotiations of the United States-Poland agreement on Pacific fisheries, Poland agreed to increased restrictions and controls on its fishing operations for 1976. Most significant was a reduction of 39 percent in Poland's catch of Pacific hake and the application of direct controls on fishing efforts for hake. Under the new agreement, Poland will move its fleet off the United States coast when it has reached its hake quota of 26,000 metric tons or 936 vessel days, whichever occurs first. The number of Polish vessels off the U.S. Pacific coast was also reduced, Pacific herring was added to the list of prohibited species, and several new time and area closures to Polish fishing were obtained.

Agreement was reached in the Inter-American Tropical Tuna Commission (IATTC) concerning the yellowfin tuna regulatory program in the eastern tropical Pacific for the 1976 fishing year. The IATTC catch quota for yellowfin will remain at 175,000 tons with allowances for two additional 10,000-ton increments, should data from the fishery warrant such increases. The United States proposed a resolution on enforcement, unanimously adopted, calling on member governments to undertake appropriate inspection and reporting procedures to ensure control of their fleets, and to cooperate in implementing appropriate enforcement measures. The Commission asked the Director of Investigations to develop a program of tuna/porpoise research for the Commissioners' consideration.

At a special meeting in October 1975 the International Commission for the Northwest Atlantic Fisheries (ICNAF) reached agreement on major United States proposals. ICNAF agreed to implement the third year of a 3-year overall catch quota off the U.S. North Atlantic coast at a level of 650,000 metric tons. Biologists feel that such a limit, if properly enforced, may allow the overall biomass to recover within 7 years. A key feature is that the overall quota is a second tier imposed over and above individual quotas on specified species or stocks. The second tier quota for each country is set below the sum of the individual species quotas to correct assessment errors and stimulate more selective fishing that will minimize bycatch problems. The Commission also agreed on national allocations for this 1976 overall quota. While the total overall quota was reduced 200,000 metric tons from the 1975 level of 850,000 tons, the U.S. share was increased from 211,600 to 230,000 tons. An agreement was also reached on a closure of most of Georges Bank to foreign vessels fishing with bottom gear capable of catching valuable and depleted groundfish stocks and a proposed national system of registration for vessels engaged in fishing or fish processing in the Convention Area.

In a renegotiated United States-Brazil Shrimp Fishing Agreement, new 1975-76 provisions were defined for the conservation of shrimp resources off Brazil. The new arrangement will provide an opportunity for the United States shrimp fishing to continue off Brazil at practical levels through 1976 without prejudice to the United States juridical or law of the sea positions. The provisions of the new agreement were implemented under a system of voluntary compliance prior to approval by both governments. The new agreement is effective from March 22 to December 31, 1976.

At a December 1975 Conference, delegations representing the Parties to the North Pacific Fur Seal Convention resolved to recommend that their respective governments amend and extend the interim Convention for 4 years by concluding a Protocol conforming to a draft agreement by the Conference. Recommended changes included references to humane harvesting, subsistence taking by natives, research on the relationship between fur seals and other living marine resources, reduction or suspension of a harvest under specified circumstances, and future discussions on further modifications to the Convention.

LANGUAGE SERVICES

This Division examines and screens publications related to foreign fisheries, oceanography, and atmospheric sciences and arranges for their translation. It also serves as a National clearinghouse for translated literature in these fields. About 70 percent of the translations are financed by PL 93-480 Special Foreign Currencies and are produced in India, United Arab Republic, Pakistan, Poland, Tunisia, and Yugoslavia. The translated material consists of books, journals, newspaper articles, and other publications of interest. Translations are made primarily from Russian and Japanese, but also from French, German, Spanish, and Eastern European languages. During FY 1975, about 29,500 translations were distributed to industry, government, international organizations, and academic circles.

CLAIMS BOARDS

U.S.-U.S.S.R. Fisheries Claims Board: During 1975, 32 new claims alleging Soviet responsibility for loss or damage to American fishing vessels or gear were filed with the Board. The Board considered 52 claims during the year which included 19 remaining under active consideration at the close of 1974, the 32 new claims filed in 1975, and 1 submitted in 1974. Settlements favorable to the claimants were recommended in 10 cases for a total of $63,525.22. In four cases the Board determined that the record did not support findings of liability on the part of Soviet fishing vessels. As specified by the Agreement, the Board ceased conciliation efforts in three cases when the claimant initiated judicial proceedings in U.S. Federal Court. In two cases the Board terminated conciliation efforts at the request of the claimant. At the close of 1975, 33 claims remained under active consideration. Settlements recommended as of January 1, 1976, totaled $100,013.27.

United States-Polish Fisheries Conciliation Board: The Board was established by agreement with the Polish People's Republic in 1973 and was activated early in 1975. The Board has examined seven allegations of loss or damage to United States fishing vessels or gear by Polish vessels. As yet, no recommendations have been made in these cases.

PUBLICATIONS

The publication series issued directly under the auspices of NMFS in calendar year 1975 were:

Current Economic Analysis

Consists of three subseries reports in which prices, production, imports, exports, and inventories of fishery products are analyzed. Issued in 1975: Food Fish Market Review and Outlook (3 numbers, 120 pages); Industrial Fish Market Review and Outlook (3 numbers, 52 pages); and Shellfish Market Review and Outlook (3 numbers, 99 pages).

Current Fisheries Statistics

Issued monthly, quarterly, or annually by States, regions, or larger areas: 271 numbers (1,527 pages) issued.

Data Report

Available as microfiches or as hard copies from the U.S. Department of Commerc, National Technical Information Service: 5 issued (1,224 pages, 20 microfiches). Publications ceased with issue No. 102.

Fishery Bulletin

Issued quarterly. Sold by the Superintendent of Documents. Four numbers of Volume 73 (953 pages) issued; contained 82 papers and an index.

Fishery Facts

None issued in 1975.

Fishery Market Development Series

None issued in 1975.

Fishing Information

A total of 12 (180 pages) issued. Supplements are distributed twice monthly (36 pages).

Foreign Fisheries Leaflet

Two leaflets (34 pages) were issued in 1975.

Marine Fisheries Review

Issued monthly: 12 numbers (512 pages). Sold by Superintendent of Documents.

Market News

The 5 NMFS Market News offices issue current statistical information almost daily: 881 reports (2,979 pages) issued.

Miscellaneous Publications

Report of the National Marine Fisheries Service for Calendar Year 1974 (50 pages) issued in 1975.

NOAA Technical Report NMFS CIRC

A total of 3 (244 pages) issued. In addition Volume 9 (95 pages, including 132 figures) of the Eastropac Atlas (Circular 330) was issued. Sold by the Superintendent of Documents.

NOAA Technical Report NMFS SSRF

A total of 16 (919 pages) Special Scientific Reports were issued in 1975.

Received or Planned Current Foreign Fisheries, Oceanographic, and Atmospheric Translations

Until December 1974, titled Received or Planned Current Fishery and Oceanography Translations. In 1975, 11 numbers (449 pages) were published.

Statistical Digest

Annual compilations of statistics with detailed tabulations relating to fishery

production, manufacture, and commerce. In 1975, 1 (517 pages) issued.

Survey of Foreign Fisheries, Oceanographic, and Atmospheric Literature

Issued monthly. In 1975, 5 issues (34 pages) were published.

Translated Tables of Contents of Current Foreign Fisheries, Oceanographic, and Atmospheric Publications

Until October 1974, titled Translated Tables of Contents of Current Foreign Fishery and Oceanography Publications. In 1975, 11 numbers (534 pages) were published.

Listing of Publications by Author

NMFS staff members published in publications with the NMFS imprimatur, and in journals and technical publications. Following is a listing by author of works published in calendar year 1975 (not included are articles in Marine Fisheries Abstracts, Current Fishery Statistics, Market Review and Outlook Reports, and Marine Fisheries Review unless published under a byline):

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Northwest fisheries Center personnel load juvenile salmon on 5,000 gallon transport tanker to bypass dams on the Snake and Columbia Rivers.

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